THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LIII. SATURDAY, OCTOBER 13, 1888. No. 15.

ORIGINAL ARTICLES.

THE RELATIVE IMPORTANCE OF DIFFERENT CLIMATIC ELEMENTS IN THE TREATMENT OF PHTHISIS.[1]

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THERE have always been popular descriptions of climate from the pens of travellers and valetudinarians, which have been more or less impartial, as the writers were more or less interested in the development of a special resort. In recent years the study of physical geography has widened our knowledge of the various climates of the globe, but exact statistics of the effect of climate on the physiology of the thoracic organs are still wanting, as well as a knowledge of the effect of climate upon bacterial organisms. Moreover, in our own land changes have been induced by the settlement of the country, so that it is still true that a definite scientific idea of the real healing property possessed by climate is yet to be formulated, and it is difficult to settle positively the relative importance of the different meteorological elements.

In this article I shall only consider the effect of different climatic elements upon a single disease. From the standpoint of the clinician the relative advantages of different climatic elements in the treatment of phthisis depend upon the view which may be adopted of the etiology of the disease.

Experimental evidence, by inoculation of tubercular material, seems to afford cumulative testimony as to the specific character of phthisis, viz., that tuberculosis is an infectious disease, and that the tubercle bacilli are the infecting agents; but a careful analysis of the history of tuberculosis indicates that both bacillary infection and unhygienic surroundings are necessary to bring about the disease.

A glance at the modes of tubercular infection may afford a hint as to the relative value of climate in the management of impending phthisis. Many French[2] and German observers have shown that the majority of pleurisies, which are not traumatic, pyæmic, or rheumatic, are tubercular. Bacilli can enter a part only by means of the canals or ducts which penetrate it, or by the blood or lymphatic vessels. Infection of the individual can occur by means of the respiratory system, the alimentary canal, the genito-urinary tract, and even the outer epithelial surface. It has been further shown that bacilli may enter the body by means of the alimentary canal, without causing any lesion at the place of entrance; for example, in the mesenteric phthisis of children. Baumgarten has even shown that the bacilli may be directly inherited, and transmitted from parent to offspring.

This variety in the mode of infection indicates that a broad view should be taken of the influence of climate upon health, and justifies the statement that the relative importance of climatic elements for those predisposed to phthisis resides in the selection of that climate which, in each individual case, tends most toward fortifying the physiological structure; and, therefore, antagonizes the invasion and progress of the disease. An additional support to this view can be drawn from the observations of Metzchinkoff, who has seen the lymph cells of the frog englobe and destroy anthrax bacilli. Wyssokowitsche, also, found the microbes, which he injected into the circulation of animals, taken up by the endothelial cells lining the capillaries of various organs, where they finally became destroyed. Watson Cheyne, in a review of some of his recent experiments, after describing the manner in which large quantities of putrefactive and non-pathogenic bacteria were destroyed when injected into the blood of rabbits, adds, "but this does not occur if the animal is in a bad state of health."

It has been demonstrated that the extent and character of the lesions produced in tuberculosis are due to the number of bacilli which enter a part, and to the manner in which they enter.

There are three characteristic forms of tuberculosis: first, acute, miliary tuberculosis, which is an acute infectious disease, due to general blood infection by large numbers of bacilli entering the blood current. Second, disseminated tuberculosis, in which there is also general infection of the blood; but the bacilli which enter are fewer, or they enter at intervals. Third, the tuberculous pneumonia, affecting larger or smaller portions of the lung parenchyma and due to the aspiration of large numbers of bacilli furnished by a focus of the disease, usually a cavity in the lung.

[1] Read at the opening of a discussion in the Section for Climatology at the meeting of the Congress of American Physicians and Surgeons, at Washington, D. C., September 19, 1888.

[2] Especially Kelch and Vaillard: Bulletins de la Société Médicale des Hôpiteaux de Paris, 83.

In the acute forms of tuberculosis, climatic treatment is certainly unavailing; in the tubercular pneumonias the same is largely true; but in the forms of disseminated tuberculosis, which are more slowly developed, and particularly those in which there is a tendency to the formation of fibrous tissue, the climatic treatment is proportionately valuable. The climate is yet to be discovered which will annihilate the bacillus of tuberculosis, but by appropriate climatic and hygienic treatment we may not only prevent the development of phthisis in those predisposed to the disease, but also strengthen the constitution so that further tubercular invasion may be retarded, and the phthisical process rendered latent. What, then, is the relative importance of different climatic elements in accomplishing this result?

Cullen has written that the air of any place is better for the patient than that in which he grew ill. When one becomes a valetudinarian the habits of previous living are reversed, active out-door exercise is usually substituted for sedentary in-door life; and, in addition, the habits are changed in connection with a salubrious climate.

A striking illustration of the influence of environment is found in Mathews' paper, read before the American Climatological Association, on "Consumption among the Indians." He has shown that the death-rate among the Indians on the reservation, and in those residing in the most highly civilized parts of the United States, is much increased under the influence of civilization—*i. e.*, under the compulsory endeavor to accustom themselves to the food and the habits of an alien and more advanced race, and that climate is no calculable factor in this increase.

A favorable climatic environment to increase general vigor may vary in accordance with the individual idiosyncrasy; with some a cool or cold climate is naturally preferable to warm or hot; some improve in rarefied air, others at the sea level, while it is generally conceded that a dry is preferable to a moist, a sunshiny to a cloudy, climate. Variability is of less essential importance, but is an element of climate which must be considered in individual cases; as, for instance, in those who possess feeble circulations, and who are unable to take much exercise. Again, equability of climate may, on the same grounds, become a factor to be considered from the standpoint of the individual case.

An inquiry instituted in Saxony, at the expense of the government, proved that elevation had nothing to do with immunity from phthisis, very high localities in the Ertz and Reisengebirge exhibiting a large percentage of phthisis as soon as the industrial arts, such as mining and the manufacture of china, were prosecuted there; while, on the other hand, the percentage in the low lands was diminished where the people were engaged in agriculture and cattle raising.

At the period of the discovery of the Sandwich Islands, in 1778, the Hawaians, according to Surgeon-General Wood,[1] were physically and mentally superior to all the other Malayo-Polynesian races. Climate, soil, and general environment having remained the same, we must account by a change in the habits of life, for the astonishing increase of disease, and the deterioration produced by a century of civilization in the Hawaian race.

Fothergill has shown that the effect of town life is to produce a distinct retrogression to a smaller, darker, precocious race of less potentiality than the rustic portion of the community.

Dr. Loomis has claimed for the air of pine forests a valuable antiseptic and corrective property, diminishing putrefactive changes in the lungs, and the multiplication of bacteria. But the influence of life amidst pine forests is, after all, rather to enhance general vigor by the effect of a suitable environment with outdoor life, and not directly by destroying the specific poison of the disease.

Ozone has always been thought to be present in large amounts in the air of pine forests, on the ocean, and at high altitudes. It is said to have the property of chemically purifying the atmosphere by combining with the products of decomposition. Again, Schmidt, of Dorpat, is of the opinion that all processes of oxidation within the organism are accomplished not by oxygen, but by ozone; oxygen outside the body being scarcely able at the temperature of animal heat to bring about the oxidation of highly organized bodies. As we cannot definitely determine the amount of ozone in an atmosphere, it becomes an attribute of climate of uncertain value. Ocean voyages are relatively important chiefly from the character of the cases which receive benefit from them. Ocean climate insures great purity of the atmosphere, and probably ozone in considerable amount, and the regularity of life may prove quieting to the nervous system. The ocean voyage is relatively superior to the seashore because the dampness of the soil at the seashore is avoided. It is also settled that sea air has a beneficial influence upon the catarrhal processes of subacute or chronic bronchitis For phthisical subjects the value of an ocean voyage lies in the bracing influence it exerts on the nutrition of those predisposed to the disease, and is favorable in some forms of fibroid phthisis in which bronchial disorders are prominent features.

It would seem, therefore, that the consideration of the etiology of phthisis would indicate that climate is of value to the individual predisposed to phthisis, not by a single or specific quality of the air, or by any definite combination of meteorological conditions. It is neither more nor less than pure air, uncontaminated by miasm or organic or inorganic

[1] Trans. Section 16, Ninth International Medical Congress.

substances. The chief purpose of climatic change is to increase cellular resistive power.

In phthisical subjects, suitable for climate cure, the relative value of different climatic elements may be determined upon simple lines, viz.: that climate most conducive to individual health under ordinary circumstances, a climate in which, according to individual preferences, fresh air, sunshine, and an out-of-door life may be freely enjoyed, and, in consequence, respiration, digestion, and hæmatosis proceed with the greatest activity.

Again, an answer to the question of the relative importance of different climatic elements in the treatment of phthisis may be drawn from a study of the climatic conditions most commonly demanded by physicians.

Dryness of soil is of the first importance, or such porosity of the same as shall practically insure it. If the soil becomes too dry the continual absence of rain may prove a disadvantage, because the air may be filled with dust, from which it is mechanically cleansed by rain or snow carrying downward to the earth not only the solid particles suspended in the air, but also carbonic acid and ammonia. Rain is not an evil, unless it is associated with conditions of soil which favor continued dampness; still a locality subject to long-continued rains is necessarily not so climatic, since high relative humidity of the atmosphere is very undesirable.

The relative humidity of the atmosphere exercises a powerful influence upon animal and vegetable life. It is well known that inhabitants of a dry climate are, as a rule, thin and sallow, while those living in moist insular countries have well-developed figures and fresh, ruddy complexions; so that a very dry atmosphere need not be considered of high relative value in persons simply predisposed to phthisis. It is otherwise with those already infected with phthisis, but even for these the question of atmospheric humidity is relatively less important than porosity of the soil; indeed, at moderate altitudes porosity of soil includes dryness of the air. The maximum dryness of the air is commonly secured at high altitudes, but since many cannot endure the rarefied air, this climatic element must often be sought at moderate elevations, at which porosity of the soil secures dryness of the air, and again, dryness of air must not be secured at the expense of a dusty atmosphere. A dry atmosphere favors inspissation of the blood by increasing transudation of the skin, and will promote inspissation of the liquid elements of catarrhal inflammation, but, as Welch and others have shown, catarrhal inflammation is secondary to microbic infection rather than the reverse.

To those who believe in the specific nature of phthisis the researches of Metzchinkoff on the struggle of the cells of the organism against invading microbes, show that dryness is chiefly of importance as an element of those climates which enhance general vigor. He points out that there are cases in which the organism is invaded by microbes without any resistance being made by the phagocytes or cells which possess the property of absorbing and digesting microbes. Atmospheric dryness is probably unfavorable to the reproduction of the bacilli, but until definite statistics are forthcoming we commonly ascribe a high relative value to a dry atmosphere from its effect in stimulating the general health.

Meteorology has shown that pulmonary phthisis and temperature have nothing in common. Pulmonary consumption, geographically considered, is neither favored by a low temperature nor prevented or cured by a high one. Equability of climate is practically unattainable, and statistics of the health resorts which send us the greatest proportion of benefited cases are those in which great diurnal variation occurs. Many regions in which the climate is equable are notoriously undesirable, as, for instance, the western coast of England, the Netherlands, Norway, the Equator, and the poles.

Equability of temperature only deserves consideration indirectly—that is to say, in connection with individual cases. When changes of temperature are very sudden or very great, a certain amount of vigor is necessary to react properly to them; persons with feeble circulations or advanced pulmonary disease will, therefore, find it necessary to consider equability.

Lastly, rarefied air versus sea-level pressure has been considered as a climatic element of high importance. This conclusion has been reached chiefly by observing that consumption in all latitudes diminishes with altitude. Physicians now are universally ready to recognize that in mountainous regions the air is rarefied and the respiratory activity increased. The air is also usually dry, and Pasteur has proven that organic substances are more numerous near the earth's surface than in the higher strata of the atmosphere, and they continue to diminish the higher we ascend, disappearing entirely when we reach certain heights in the mountains. It has, however, been shown conclusively that the unquestionable good results accruing to consumptives, from a residence in the mountains, are due to other causes than altitude. In elevated regions consumption can be developed the moment the inhabitants adopt an indoor life, associated with the confinement incident to the trades; while in the lowlands outdoor life diminishes the percentage of consumption.

Fifteen years ago MacCormac, an English physician, claimed that pulmonary consumption was an artificial product developed by inspiring air which had previously been expired, "re-breathed" as he expressed it. He went so far as to assert that there would be no pulmonary consumption if everyone would sleep with open doors and windows. Statis-

tics, I believe, will ultimately show that the mere mechanical physiological influences of rarefied air are unimportant in the majority of cases, and we now know that, in some instances, high altitudes prove positively injurious.

The greatest benefit can be secured in the locality which possesses the purest air, a large percentage of ozone, the best drained soil, atmospheric dryness without dust, and the greatest proportion of sunshiny days, and especially where these results are attainable at a moderate altitude. This latter feature should be considered important, because should recovery occur it may be possible to return to ordinary elevations with safety to health; for while statistical proof is wanting it is pretty well established that when an individual becomes acclimated to the rarefied air of high altitudes it is dangerous to health to return to ordinary elevations.

Finally, the position already taken in regard to the relative importance of climatic elements is supported by the character of the cases deemed suitable for climatic treatment. In selecting these cases the question of the special physiological effects of altitudes should be first considered. These specific advantages seem to be mechanical, and are chiefly those which result from the rarefied atmosphere. For example, it has been shown by Dr. Platt that the Peruvians at an elevation of seven thousand to fifteen thousand feet possess short compact bodies and greatly hypertrophied lungs. Residence at high altitudes causes enlargement of the thorax, hypertrophy of the healthy lung tissue, and the development of pulmonary emphysema around tubercular lesions.

High altitudes are generally recommended for those cases free from pyrexia and all acute symptoms; in cases of hereditary or family tubercular predisposition; or in cases which manifest phthisis by early hæmoptysis; and in instances of imperfect thoracic and pulmonary development, in chronic tubercular pneumonia without bronchiectasis, and with tendency to formation of fibroid tissue; in chronic pleurisy in which the lung does not expand after removal of the fluid, and in spasmodic asthma without emphysema.

The climate of altitudes is acknowledged to be injurious to those who possess insufficient lung tissue to carry on respiration adequately in a rarefied atmosphere, such as cases of phthisis with double cavities, with or without pyrexia, and in those cases of tubercular infiltration in which at low levels the pulmonary area scarcely suffices for respiratory purposes. It is thought that in suitable cases evidence of improvement must be drawn from a diminished pulse and respiration rate, together with gain in bodyweight, color, and muscular power; but these physical signs are not peculiar to improvement at elevated regions.

High altitudes are then peculiarly undesirable for mechanical reasons, and consequently for special types of disease such as emphysema, chronic bronchitis with bronchiectasis, and in diseases of the heart and great vessels. High altitudes are thought to be unsuitable for cases in which there is great irritability of the nervous system, since the dry air usually found in such latitudes diminishes the water in the blood, and acts as a powerful stimulant to the nervous system, increasing its functional activity and causing excitement and sleeplessness. High altitudes necessarily include variability, consequently are unsuitable for those persons advanced in years or in those younger persons who are too feeble to take exercise.

There are, therefore, a few mechanical effects peculiar to the atmosphere of elevated regions which render the climate of altitudes relatively objectionable in the management of certain cases, but, on the other hand, excluding these, the relative importance of altitude indirectly antagonizing tubercular phthisis has not been shown, and the good results attained in elevated regions for the class of cases already mentioned can be gained at any point possessing dry soil, pure dry air, and sunshine, which will invite exercise and in turn promote hæmatosis and invigorate the general system.

Once more, in selecting a climate the preference of a patient for a warm rather than a cold climate, should be consulted, and in the decision the only essential elements seem to be those already grouped, viz., dry air, porous soil, and abundant sunshine, for in almost all cases the profit to the individual is indirect from the effect of out-door life. In selecting a climate its relative advantages should be set over against the disadvantages of localities not only meterological, but also those relating to the patient's personal comfort and convenience, and as the requirements of a typical climate, though simple, are not easily secured at any one point, localities should also be selected in some measure with a view to the least expense and inconvenience of the individual.

THE COMPARATIVE IMPORTANCE OF DIFFERENT CLIMATIC ATTRIBUTES IN THE TREATMENT OF PULMONARY CONSUMPTION.[1]

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IN offering my views upon this subject, I shall not presume, even were it possible in the limited time allowed, to give statistical evidence of the results of my own experience in the climatic treatment of phthisis. From the protracted nature of the disease satisfactory data can be given only after

[1] Read at the meeting of the American Climatological Association, Washington, September 19, 1888.

years of close observation of cases, and it is more with the hope of exciting discussion which shall lead to more thorough investigation of this most important subject than of giving new or valuable facts, that I have prepared this paper.

There can be no physician, I imagine, even of many years' experience, who does not feel, at times, a sense of helplessness when asked if a change of climate will be beneficial to his patient, and, if so, what climate shall be chosen. It is then that our lack of proper knowledge on the subject comes over us; it is then that the apparent difference of view, held by equally eminent authorities, makes us feel that the science of climatology is in its infancy only, and that from its very complexity it must have a slow growth.

In taking a broad survey of the different methods of climatic treatment in the last half century, we can say that, regardless of possible differences of detail in treatment of incipient phthisis, the modern method is strongly in favor of selecting cool or even cold invigorating climates by which the general system may be assisted in its efforts to resist disease, as opposed to the former custom of selecting the warmer, more debilitating regions with their generally depressing effects. Even when taking into consideration the greater attention paid now to hygienic matters, which has its favorable effect, yet the results of the modern method show it to be a decided step, in the right direction, for a large class of cases.

Let us now ask: "What in the opinion of eminent authorities are the most important attributes of a climate for the treatment of incipient phthisis?

At the outset we must pause, being brought face to face with the fact that in all tabulations of results, the word phthisis covers a variety of pulmonary affections, and herein lies one of the chief difficulties of our coming to accurate and definite conclusions. By accepting the presence of this well-nigh insurmountable difficulty, and keeping it in mind, we can, nevertheless, draw general conclusions with safety, and judge if the number grows less of those who die from wasting pulmonary diseases, be they of tubercular nature or otherwise, and, if so, what are the reasons of the decrease?

In Dr. Denison's admirable paper of last year, which gives us the key-note of the discussion to-day, he places at the head of the list the quality of *dryness* as opposed to *moisture*. Under this head we may include both dryness of the air and of the soil, and without discussing the question as to how these are largely dependent upon each other, it will be sufficient to say that the researches and opinions of many authorities justify Dr. Denison in placing this attribute at the head of the list.

The investigations of my father, about thirty years ago, as to the cause of consumption in Massachusetts, and shortly afterward, of Buchanan and Simon, in England, point most strongly to soil moisture as a cause of the disease, and, furthermore, show that removal from a damp soil to a dry one has frequently been followed by arrest of the disease. More recent researches in other regions (for instance, those of Dr. Pepper in Pennsylvania two or more years ago) have lead to the same result. Jaccoud, Hermann Weber, and others quoted by them, while they lay the greatest stress upon *altitude*, yet speak of the dryness of the air which accompanies a rarefied atmosphere and the rapid drainage of the soil due to elevation as most important factors in the cure of consumption.

Jaccoud, in his enthusiasm for *altitude* as the most important factor in the treatment of incipient phthisis, lays much stress upon the mechanical effect of expansion, which residence in a rarefied atmosphere has, upon the human chest, and in this view he is supported by Hermann Weber, C.B.J., and C. Theodore Williams, Denison, Solly, and others, and from their observations there is little reason to doubt that the frequent and deep inspirations made by patients upon arriving in mountain regions, to obtain the requisite amount of oxygen from the rarefied air, tend to expand the chest and to dilate the collapsed or obstructed alveoli of a phthisical lung. The full-chested appearance of children in the mountainous regions of Colorado, as noticed by the two authors last named, goes to prove this fact.[1]

Apart from the mechanical effect upon the chest, authorities very generally agree that in altitudes, properly selected, varying from 1500 to 8000 or 10,000 feet, we find a combination of attributes favorable to the cure of incipient phthisis, and in addition to the one already mentioned, viz., *dryness* of the atmosphere and soil, we have the advantage of a cool or cold bracing temperature, clearness and purity of the atmosphere, with a large percentage of sunshine.

While fully acknowledging the weight of the opinions of those who regard altitude as *one* of the most, if not *the* most important element in the climatic treatment of phthisis, yet I must confess to being as yet unwilling to accept this without reservations. It is doubtless true that we find, as Dr. Denison says, at certain high altitudes a greater number of what we now consider the most important

[1] That these effects of altitude have a decidedly beneficial influence on the pulmonary condition there is little reason to doubt, even though Jaccoud persists in saying that the rarefaction of the air causes an *anæmia* of the lungs in conjunction with the other viscera, although other eminent authorities maintain that the lungs share with the skin the increased circulation due to removal of atmospheric pressure, which seems the more rational view. (Lubbock's translation of Jaccoud's "Curability and Treatment of Pulmonary Consumption," p. 293.)

attributes combined than in less elevated regions; but I think we must be guarded in accepting this, lest from the result of future investigations we find that we have gone too far in this direction.

With my present conviction that dryness of soil and atmosphere are the most important factors in the climatic treatment of phthisis, I am much struck by the experience of Dr. Geddings, who for many years has studied the climate of Aiken, in South Carolina, and the results of phthisical patients who have been sent there. The town is situated between 500 and 600 feet only above the level of the sea, not high enough to exert any special mechanical influence on the chest by rarefaction of the air (on which Jaccoud lays so much stress), yet the atmosphere and soil are both very dry, and the bracing quality of the air is a marked feature.

From the results which Dr. Geddings has noticed, and from the experience of a few patients with whose histories I am acquainted, I find myself questioning as to how far the element of altitude *per se* is necessary, and whether other regions resembling the position and climate of Aiken are not to be found, where equally favorable results can be expected. In this connection, moreover, the facts spoken of by several authorities must not be lost sight of, viz., that in certain countries of decidedly low altitude there seems to be an entire immunity from phthisis; for instance, the Kirgheez, in Asiatic Russia, who live on vast steppes, one hundred feet below the sea-level, and the inhabitants of the Faroe Islands and of Iceland, living at a very slight elevation, and under the most unfavorable hygienic conditions, are nearly, if not entirely, free from the disease. So far as I know, these countries have never been used as health resorts for phthisical patients, but probably the depressing effects of living in such communities would far outweigh any possible benefit.

As to the attribute of temperature, or, in other words, *coolness* or *coldness*, as opposed to *warmth*, in the climatic treatment of phthisis, there can be little doubt that, in the majority of cases of incipient disease, the former has the more favorable effect. The good effects of a low temperature lie chiefly in its bracing quality, its tendency to cause dryness of the atmosphere, and its unfavorable influence on the growth of the bacillus outside the human body, a fact which, to those who believe in the theories of Koch, is of marked importance. (The contrary is true of warm, moist, relaxing climates.) The importance of clearness and purity of the atmosphere, with the presence of sunshine, is so self-evident that one need scarcely discuss it. The effect of the lack of these elements upon healthy human beings is sufficient proof of the necessity of their presence in the treatment of disease, more especially in phthisis.

In connection with the comparative importance of different climatic attributes, a word must be said as to the difference between seashore and inland climates. Of necessity, no general law can be laid down on this point, but the weight of opinion may be said to be distinctly in favor of dry, inland climates for the treatment of incipient phthisis. The shores of the Mediterranean are famous as health resorts for consumptives, and although, in the opinion of Jaccoud and Hermann Weber, they are inferior to the inland and mountainous climates, yet a residence in that region is doubtless of great benefit to many; the dryness of the atmosphere, and a large percentage of sunshine being two most noticeable features of the climate.

Opposed to the idea of preference being given to inland climates, is the fact that most of the health resorts for consumptives in England are situated near the sea, where the climate is decidedly moist, and soft. As to the results in the cure of phthisis in these places, compared with those in mountainous regions, I am unable to make any statement, but the preference shown by English physicians, in sending their patients to such dry, mountainous regions as Davos, in Switzerland, speaks strongly in favor of the latter resorts.

Speaking for New England, it can be said that, while exceptional cases may do well, the moist, harsh climate of our northern coast is distinctly bad for consumptives, and it is my custom, as it has been my father's for years before me, to advise removal from the coast, if only to retreat to some comparatively dry region eight or ten miles inland, where the rigor of our harsh, damp winds may be avoided. Very different are the effects of a sea voyage or its equivalent, residence upon an island several miles from the shore. The reason of this difference is not satisfactorily explained, but doubtless the purity of atmosphere, and absolute freedom from dust, have much to do with it. As a cure for phthisis, however, either method may be said to hold a decidedly secondary position.

By comparing these facts again, we find strong evidence in favor of the attribute of atmospheric dryness in the treatment of phthisis.

To state briefly my present views: I believe that properly selected altitudes possess a combination of climatic attributes which, according to our present knowledge, form the best means of cure for cases of incipient phthisis in which there are no symptoms that would contraindicate residence at a great height —*e. g.*, cardiac weakness, excitability of temperament, marked feverishness, or a pronounced emphysematous condition, all of which symptoms are, according to the authorities mentioned, apt to be unfavorably affected by altitude.

At the same time, I believe we have much to learn as to the possibilities of cure in less elevated regions, like Aiken, South Carolina, where the quality of dryness is present with a bracing atmosphere.

Still further, we have a great field before us in the investigation of the effect of residence in comparatively favorable regions near our homes, where, by the establishment of sanitariums, we can combine climatic, hygienic, and medical treatment in such a manner that exile from home and family may not be thought, in the future, of such paramount necessity.

In accordance with my father's and my own custom of recommending, in certain cases, a residence in towns favorably situated within a few miles of Boston, I have, for some time, felt that much more could be accomplished by the establishment of sanitariums for phthisical patients in these regions. I determined to make the attempt to get some suitable institutions for those who cannot afford to go far away from home, in Sharon, Mass., a town situated between 300 and 400 feet above sea-level, about eighteen miles southwest of Boston. The soil is of a very porous nature, the atmosphere of a markedly dry, bracing character, pine forests abound, and a line of hills, moreover, shelter the town from our harshest winds. Through the generosity of one interested in the scheme, a farm favorably situated has been bought, and, relying upon the assistance of wealthy citizens of Boston, I hope, with the assistance of Dr. R. W. Lovett, to show, at some future time, that much can be accomplished in this way.

I was much pleased to find that Dr. Kretzschmar, of Brooklyn, several months ago, had called the attention of the profession in America to the gratifying results of Dettweiler, in his sanatorium at Falkenstein, in Germany; of Brehmer, at Görbersdorf, in Silesia; and other now well-known establishments, situated in not especially salubrious climates. The experience of these physicians in Europe, as well as that of Dr. Trudeau, in the Adirondacks, should give us reason to hope that, by means of similar establishments near our homes, even at a comparatively slight elevation above the sea, we can do a great deal toward arresting the present death-rate from pulmonary consumption.

I cannot conclude better than by quoting Hermann Weber, who, in the fourth division of his exhaustive work on climatology, says: "By erecting well-arranged establishments, under medical supervision, in well-situated places near at hand, a great many of the advantages of more distant climatic health resorts may be gained."

DERMATITIS TUBEROSA DUE TO INGESTION OF THE IODINE COMPOUNDS.[1]

BY JAMES NEVINS HYDE, M.D.,
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A DISTINGUISHED writer in medicine has recently declared that the reactive effects of the introduction of poisons into the human economy are sometimes presented with features that surprise the most skilful of physicians and are capable of leading to the gravest errors in diagnosis and therapeutics. In the confident belief that this statement furnishes the key to some of the most singular of the anomalies presented to the student of cutaneous medicine, I venture to make a third clinical contribution to the study of the eruptive lesions, pseudo-pemphigoid in type, induced by the ingestion more particularly of the iodide of potassium.

CASE I.—On the 1st of March, 1888, I was summoned to one of the Chicago hospitals for the purpose of establishing the nature of a disease with which one of its inmates was affected. The patient, A. C., a girl eighteen years of age, was reported to be suffering from leprosy. She was found occupying one of the most secluded rooms in the building, cut off from contact with all outside save the physicians and the Sister in attendance. She gave the following history:

She was a native of Illinois. Her father had died in the twenty-ninth year of his life of typhoid fever; her mother, at thirty-eight, of some unknown acute disorder, who had, however, before her death contracted a second marriage which resulted in the birth of several children, some living and healthy; others dead in infancy of unknown disorders. Both of these parents had been previously healthy. The patient had never menstruated. She gave a history of vague sensations which she had experienced from time to time about the period of her twelfth year, which may have been more or less associated with a menstrual molimen. One day, in her fourteenth year, she was walking on a railroad track, when, by accident, she stumbled and fell. The whole weight of her body was thrown upon the right elbow which struck upon a steel rail. As the result of this, the joint became first acutely inflamed, and later persistently painful, hot, tender, and enormously swollen. During the next three years a series of recurring abscesses formed about this joint, some of which burst spontaneously, and some of which were opened by a surgeon. Each in the course of a few weeks would heal and be followed in a series of months, varying from two to six, by the occurrence of another abscess, which pursued the same general course, leaving the joint finally swollen and immovable. She had never suffered from any pilary loss, cutaneous affection, soreness of the mouth or tongue, or any other symptom of disorder. Her general health, apart from the accident and its complications mentioned, had been excellent. In January of the present year a final ulcer formed over the affected elbow-joint. She was in consequence brought to the hospital on the 2d of February, 1888, one month before the date of observation. She was then in the following condition:

She was a well-nourished and intelligent girl, presenting the childish appearance common at her age in young women who have never menstruated. She had no febrile symptoms. The eyes and teeth were normal and her senses unimpaired. The right elbow-

[1] Read before the American Dermatological Association, at the First Congress of American Physicians and Surgeons, Washington, September, 1888.

joint was symmetrically and extensively swollen, tender and painful, the arthritis which had resulted from her accident having left the joint in a state of pseudo-ankylosis, the forearm being flexed upon the upper arm midway between pronation and supination at an angle of forty-five degrees. Through a fistulous orifice on the outer face of the joint, a slender spiculum of bone projected, several millimetres in length. There was a faint, irregular scar on the outer face of the right foot which she said had resulted from a small abscess at that spot. There were no other scars upon the surface of the body. Her skin generally was smooth, soft, and entirely free from any cutaneous exanthem.

She was then ordered to take three times in the day, teaspoonful doses of a solution, each ounce of which contained one grain of iodine and one drachm of the iodide of potassium. On the third day after this medication was begun, a number of semi-solid papules appeared on the forehead; and two or three on the dorsum of the hands. There was a moderate coryza which led her to think she had "caught cold." By evening of the same day, the entire scalp and forehead were covered with smaller and larger lesions of the same general character, rapidly increasing in size. On the next morning her hair was cut short on the scalp and a poultice applied. The papules rapidly became large, softish tubercles, covering the scalp and face, closing the eyes, encroaching on the neck, in front and behind, and including the intra-scapular region, as well as the forearms and the hands.

Through the entire month of February the same internal medication was pursued, with constant aggravation of the cutaneous disorder, until my visit on the 1st of March. At this time the appearance of the patient was in the highest degree repulsive. The scalp, from which a cloth was removed spread with a salve, was completely covered with closely packed, pigeon's-egg-sized tubercles, the matted hairs projecting through and between them, all smeared with a puriform mucus, mixed with the fatty basis of the salve. The forehead, temples, cheeks, neck, and back were generally and symmetrically covered with superficially seated, small egg-sized, semi-solid, discrete and confluent, oval, roundish, and irregularly shaped tubercles, of a dull reddish hue, some standing out to the extent of several millimetres prominently from the general surface. Their summit was usually flattish, occasionally fissured and macerated with a mucoid secretion. Many strongly resembled large sized, secreting condylomata. A few presented the appearance of containing boiled sago grains. None were true bullæ, and none when punctured extruded their contents. Some were reported by the nurse as having furnished a profuse, greenish-yellow discharge before they had been cleansed. The forehead, especially the upper portion, was extensively and symmetrically invaded by these rapidly developing nodules, which were closely packed together; the brows and eyelids, particularly upon the right side, were so burdened with the same as to render it difficult to open the eyes. Some had the appearance of an irregular furrow filled with muco-pus at the summit, the general line of this furrow corresponding to the axis of the long, oval-shaped lesion, resembling the sausage-like tumors of mycosis fungoides.

It was almost impossible in the case of the larger of these lesions, so great was their size, to distinguish the individual elements of which they were composed. Some were so marked by lobules and fissures as to suggest that they were compounded of large bean-sized lumps. When incised, pus, blood, serum, and an inspissated, grumous fluid could be expressed from the wound, but the lesions were in no sense chambered. They were evidently masses of softish, vascularized epithelium, secreting superficially a thick, grumous, mucoid fluid, in places commingled with pus. There was little or no subjective sensation produced. The skin of the anterior thorax was scantily invaded. There were two large compound nodules on the flexor aspect of the right forearm; two also on the left hand; one on the dorsal surface of the web between the first and second metacarpal bones, of the size of a fifty-cent piece; another, small coin-sized, on the dorsum of the left index-finger between the distal and middle phalanges. Elsewhere there were no lesions upon the surface of the body. Iodine was detected chemically in the urine.

One of the conspicuous features of this case was the evident failure of correspondence between the eruptive symptoms and the general condition. The patient appeared to be neither weak in body, dejected in mind, nor stricken with any grave malady. She sat up in bed, gave full and intelligent details of her history, laughed heartily over the appearance she presented, and, on the whole, rather made light of her troubles. The remedies she was then taking were ordered discontinued, and she was given merely a ferruginous tonic. The result was a prompt and rapid disappearance of the exanthem. So rapid, indeed, was the subsequent process of involution that even though but two days elapsed before a portrait of the patient's face in oil could be made, a decided subsidence of the tumefaction occurred, and the color of the lesions became markedly less vivid.

The eruption, as it subsided, left distinctly circumscribed, dull red infiltrations, in patches covered with light and dark crusts superimposed upon the secreting surface. Here and there a slight and superficial atrophy of the skin in patches resulted. Two superficial ulcers formed on the back, doubtless as the result of the unavoidable pressure in a recumbent position. At no time were there evidences of general ill health. When the spiculum of bone was removed from the fistulous orifice in the neighborhood of the right elbow-joint, the parts healed without difficulty. In the site of a few of the larger lesions there was a distinct superficial cicatrization. The most characteristic of these scars was seen on the dorsum of the left hand. Here was one as large as a fifty-cent piece, circular in outline, and very slightly raised above the general level of the skin.

In two months after the discontinuance of the iodide, there were no skin lesions visible, beyond the pigmentation of the slightly infiltrated skin in the situation of the previous exanthem. In two

weeks more the drug was again administered in precisely the same dose as before. The eruption again promptly appeared over the scalp and forehead. Unfortunately, the surgeon, under whose direction this test was, at my suggestion, made, left the city soon after ordering the readministration of the remedy, and, as a consequence, more than a week elapsed before the medication could be stopped a second time. During this interval a serious and disfiguring second crop of molluscoid lesions appeared over the forehead, which happened to be neglected in the hot month of midsummer, and, as they secreted mucus very freely, they brought the patient into a condition which was almost as serious as that which had preceded, and which might certainly have been avoided. After this she returned to her country home, with the relapsing tubercles rapidly shrinking in consequence of a final suspension of the drug.

CASE II.—H. E., a native of Iowa, a male infant, seven months old, was brought by its parents for examination, on June 2, 1887. They were both healthy-looking, and had had one other child that died in the third month, of some bowel affection. They reported that H. E. had always been a healthy-looking baby, and well nourished since its birth. It took the breast without difficulty. Its digestion was unimpaired, and its nutrition had always been good. At about the seventh week of life, a crust had appeared over the vertex of the scalp, which had been treated by a local physician, who prescribed for it a salve for external application, and a fluid remedy to be used internally. Since that date the present disease had gradually increased, and extended until the condition now noticed was reached. When examined, the child was seen to be well nourished, and to present the following appearance:

The scalp, face, ears, neck, and forearms were the seat of an almost confluent eruption, masking the entire surface involved. This had occluded the external auditory meatus of each ear, completely closed each eye, and rendered the separation of the lids difficult. This eruption was made up of closely packed, confluent, softish, and semi-solid tubercles, of a deep, mahogany-red hue, dry and moist in different parts, of about the size of a large pea. They were roundish or oval in shape, compressed by juxtaposition, or quite commonly flattened at the apex, often presenting there a depression similar to an umbilication, in places smeared with mucus. Some of these lesions suggested in appearance that they had boiled sago-grain contents; in others, far more numerous, there were simply closely packed, flat-topped, deep-red tubercles of the sort already described, looking very much like mollusca with semi-solid contents. They were not interspersed with pustules or bullæ, and bore no signs of traumatism. There were a few softish crusts upon some, composed chiefly of the inspissated smegma collected over the moister lesions. Their thickness added to that of the skin of the part affected, gave the head of the child the appearance of an enormous tumefaction. The neck, in front and behind, was extensively and similarly affected. The skin of the chest was relatively free. The skin of the forearms was covered with isolated lesions of similar character, rarely grouped. The upper arm was free. There were a few lesions of the same sort on the palms of the hands; none elsewhere. The color of this eruption was peculiar. It has been described above as of a dark mahogany hue; it was more empurpled than a deeply congested patch of eczema, and suggested somewhat the very dark color of the lesions in so-called "black measles" (hemorrhagic variola). A significant feature of this case was that noticed in the description which precedes, namely, the toleration of the exanthem by the skin. The child, though frightfully disfigured and unable to open its eyes, lay composed in its mother's lap, its stomach well distended with breast milk, and its chubby limbs resting quietly as it slept. When awake, it uttered no cries, and made no effort to rub or scratch the skin. It was well nourished, took the breast regularly, and slept contentedly in the intervals.

It was afterward learned that this infant had, since the beginning of its treatment, been taking the iodide of potassium in one-grain doses. The remedy had been steadily pushed from the beginning up to the time of this observation.

The eruption began to subside immediately upon the discontinuance of the drug. In three weeks the parents wrote that the child was still enjoying uninterrupted health, and, with the single exception of a small abscess which had burst back of the ear (undoubtedly due to the extensive irritation of the scalp), there had been no interruption in the general improvement. There was a final report that the child was perfectly well, nothing remaining but the pigmentation of the skin where the lesions had existed.

In this case no attempt was made either to reproduce the exanthem by the administration of the drug, or to examine the urine.

In the years 1879 and 1888, respectively, I read before this Association brief papers relative to the bullous eruption induced by ingestion of the iodine compounds. In these contributions attention was called to the literature of the subject as it then existed, which has since been enriched, it may be noted in passing, by the valuable and interesting work of our colleague, Dr. P. A. Morrow, and also by the appearance of the exhaustive monograph on "Iodism," by Dr. Elizabeth M. Bradley, of the faculty of Paris, a work which seems to have resulted from some of the suggestions of Fournier. Papers by Hallopeau, Hardy, and others, have also appeared, and contributed interest to the study of the same general subject. In the last of my two papers an attempt was made to establish a distinction between: (*a*) Cases in which a purely bullous exanthem, produced by ingestion of the iodides, was to be seen in persons of adult or advanced years, cachectic, syphilitic, adynamic, and often moribund at the moment of development of the lesion; (*b*) cases in which a degree of polymorphism was apparent, purely bullous lesions being then commingled with those of

different type; (*c*) cases occurring only in infants, children, and young adults, neither cachectic, syphilitic, nor moribund, oftener eczematous, but otherwise healthy, in which semi-solid, slightly umbilicated lesions resulted from ingestion of the iodine compounds, these lesions resembling condylomata or mollusca, and not conforming to the strictly bullous type.

The two cases reported briefly above, three of those contributed by myself in the papers just cited, and two cases reported respectively by the late Dr. Tilbury Fox and Dr. T. C. Fox, of London, all appear to belong to the last named class. I need not repeat a third time that the late Dr. Tilbury Fox is to be credited with first indicating the special character of this eruption in his use of the terms condylomata and mollusca as descriptive phrases for the designation of these odd-looking lesions. It is, however, proper once more to call attention to the fact, further emphasized by these two additional cases, that the lesions are not strictly bullous, are not chambered, are semi-solid in character, and often furnish a grumous secretion, as does the condyloma, from the flattened surface and flattened grooves of their apices. The lesions, characteristic in site, in appearance, and as to the subjects in whom they are displayed, somewhat resembled those described by Besnier as iodo-potassic anthracoid acne, and also those described by Drs. Duhring and Da Costa, of Philadelphia. They cannot be, however, recognized as strictly identical with those more lately described by Hallopeau as vegetative, and resulting in cicatricial lesions. The patient whose case Hallopeau studied was a feeble, poorly developed man, forty-eight years old, and syphilitic — conditions which seem incompatible with the production of the peculiar lesions described by Fox and myself. Nevertheless, the peculiar cicatrices first described by Hallopeau and recognized also by me in one of the cases above described, seem to be in this connection of special interest. The cicatrices in Hallopeau's case were isolated and depressed, their centre occasionally covered with crusts and vegetations. They were roundish in outline and varied in their size from a split pea to a small coin. A few were somewhat elevated above the surface. On the dorsum of the right hand of his patient was a violaceous cicatricial plaque, two centimetres in diameter, limited by an elevated border. Setting aside for the moment the suspicion that attaches to every such cicatrix in a patient confessedly syphilitic, it must be freely admitted that the description above given applies very exactly to one of the scars which were seen as a result of the exanthem in the first of my two patients. Here a number of delicate polycyclical lines, at the border of a few facial lesions, when examined with great care, seemed to be cicatricial in character, but the then quite recent disappearance of the extensive exanthem on the swollen face led to the suspicion that these cicatrices might later disappear, or be well nigh smoothed to imperceptibility in time. Such, however, was not the case with the distinct scar on the dorsum of the left hand. It was an unmistakable cutaneous cicatrix, of exactly the sort described by Hallopeau in the language given above, and resulted from a lesion induced by the ingestion of a drug.

Dr. Elizabeth Bradley, when her interesting monograph upon this subject was written, seems not to have seen the second of my two papers on this subject, though she carefully collates the facts contained in the first. Celso Pellizari's case exhibited lesions which were subcutaneous in situation, were accompanied by fever, and followed by abscesses. Morrow's remarkable case was that of a moribund patient, presenting strictly bullous lesions belonging to one of the other classes described above.

I have made this contribution to the general subject chiefly because of the interest which seems to me to attach to the first of the two cases here reported, the patient whose face was selected for illustration. The subject of the disease was neither syphilitic nor cachectic. She was suffering from a chronic arthritis, traumatic in origin, which had possibly resulted in localized tuberculosis of the joint affected. Her general condition was excellent; her skin was, and always had been, entirely free from any cutaneous eruption at the time when she first ingested the offending drug. There was no underlying diathesis to modify or induce an eruption. Here, too, was the soft and susceptible skin of a child, the fact of her arriving at what is usually the puberal epoch of her sex being offset by the failure to menstruate as already indicated. This is the first opportunity I have had of studying these condyloma-form lesions under anything like such favorable conditions. Enough is now known of this special form of medicamentous dermatitis to warrant the following conclusions:

First. When the iodine compounds, irrespective of the size of the dose, have been administered to well-nourished infants, children, and persons whose skins are in the condition usually found at these ages, a quasi-bullous rash may gradually appear, whose elements differ from the blebs which occasionally form when the drug has been administered to older persons, syphilitic, cachectic, or in grave conditions of prostration.

Second. The interest attaching to the recognition of the nature of the eruption is partly due to the fact that in the class named it may be superimposed upon an eczematous or seborrhœic condition, for which the iodide has been administered.

Third. The regions invaded are almost exclusively

the scalp, face, neck, upper chest, forearm, and hand.

Fourth. The subjective sensations experienced when the lesions are copiously developed are comparatively insignificant, and the disproportion between the disfigurement produced by the enormous cutaneous nodules and the generally fair condition of the patient is often of the highest diagnostic significance. The lesions are, strictly speaking, neither vesicles, bullæ, pustules, carbuncles, abscesses, nor papules. They are softish, semi-solid, roundish, oval or irregularly shaped tubercles, resembling mollusca and condylomata, flattened or umbilicated, or seamed and furrowed at the summit. They may be isolated and bean-sized, or agglomerated in patches as large as the palm. Whether they have grumous or sago-grain-like contents, or are filled with blood or serum, they secrete, like condylomata, over the free surface, and when covered with light-colored mucoid crusts these are usually furnished by the desiccation of the secretion named, and not by exudation and subsequent drying of the contents of the lesion. In color they are light reddish, dull purplish-red, or violaceous, and are usually well projected from the surface of the skin, being rarely subcutaneous in situation.

Fifth. Involution commonly progresses rapidly after the suspension of the drug, and is very rarely followed by circular, oval, faintly defined, and irregular cicatriform patches, in which the skin is left in an atrophic condition, not distorted or puckered.

These scar-like patches have thus far been studied only in the recent condition; and their condition and appearance after any prolonged period of time cannot now be determined.

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CASES OF TETANY, HYSTERICAL CONTRACTION, AND REFLEX CONTRACTION; ILLUSTRATING VARIETIES OF CHRONIC FUNCTIONAL TONIC SPASM.

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CASES of tetany in the adult, although they are not very commonly met with, yet present themselves in a great variety of forms, both in regard to the number and distribution of the muscles involved and in the duration of the contraction. The following case is remarkable in that the muscular spasm was so continuous (lasting many months) and involved the muscles of the body so generally:

CASE I.—M. H., twenty-six years of age, single, a seamstress, entered St. Peter's Hospital July 8, 1887. She had always been healthy till the first part of September, 1886, when, while menstruating, she was holding horses in the rain, and in trying to shelter a little girl, who was with her in the wagon, she, herself, became thoroughly drenched with rain. Almost immediately after this exposure her right hand felt stiff. This abnormal feeling in her hand continued, and two weeks later the muscles of the calf of the legs became cramped and hard, continuing so for about half an hour, during which time she was unable to stand. The next day the spasms returned, and, subsequently, they recurred more and more frequently and attacked the arms also, and, finally, involved all the muscles of the body. These spasms have, from the first, presented an intermittent character, but during the past six or eight months, even in the intervals of the spasms, the muscles do not completely relax but continue stiff. At times, especially when in bed in the morning, she thinks that she is perfectly well, but very soon the rigidity comes on. The acute attacks of spasm are usually confined to her arms and legs, but on several occasions the muscles of respiration have been slightly involved. She has no pain in any part of her body, although the acute attacks of spasm are somewhat painful. She always feels very hot, and even in the coldest weather likes to sit without any extra clothing by an open window.

The patient seems to be weak-minded and childish, but does not appear to be hysterical. At all times, even when asleep, all the muscles, except those of the face, are in a condition of tonic spasm, so that each one feels hard and the outline of each is sharply defined, as though faradized by a strong current. This is true not only of the muscles of the arms and legs but also of the cervical, thoracic, abdominal, and dorsal muscles. The muscles offer considerable resistance to passive extension, but the patient can use her limbs slowly; she walks on tip-toe, the feet are firmly held in the position of talipes equinus, and the hands are firmly held in a position half "clawed" and

half "obstetric" and at times are held rigidly so by an acute attack of spasm. Such spasms can be induced by firm and constant pressure applied just below the axilla over the course of the vessels and nerves, and when such pressure is applied, the patient first complains that her hand is cold and then the spasm comes on. Pressure on the ulnar nerve behind the elbow does not produce the spasm. The facial nerve does not show any exaggerated irritability to mechanical excitation. The superficial and deep reflexes seem to be normal, but the constant spasm interferes with their full development, and the same spasm prevents any satisfactory electrical examination. Absolutely no disturbance of tactile, painful, or thermic sensibility can be detected. No ovarian or spinal tenderness.

The patient remained in the hospital until March 24, 1888. Once she was etherized, which caused a complete relaxation of the muscular contraction, and, when in this condition, her joints were moved freely in all directions. The attacks of acute spasm became less and less frequent, and, finally, ceased entirely, but the tonic contraction continued unchanged. She continued to act in a childish manner and had one or two brief attacks of insanity. Hot baths seemed to produce some relaxation of the muscular contraction at first, but she obtained most relief by being in a very cold room and having but little clothing. Tonics, bromide of potassium, hyoscyamine and other remedies which were tried produced no good effect.

REMARKS.—Notwithstanding the fact that in the medical literature to which I have access I have not found any description of a case of tetany in which the muscular spasm continued persistently for weeks and months, yet this case, it seems to me, must be regarded as a case of tetany. In the early part of its course it presented the intermittent form of symmetrically distributed spasm so typical of tetany, and, although later, the muscular contractions became continuous, and during the nine months that the patient was under observation, in the hospital, all her muscles, except those of the face, were so strongly contracted that the contour of every superficial muscle stood out as plainly as in an anatomical dissection, yet even while the muscles were thus continuously contracted, spasms of even more severe and painful muscular contractions occurred at long intervals, and could be at any time induced in the arms by pressure on the nerves and vessels together, but not by pressure on the ulnar nerve alone, and the facial nerve did not show that increased excitability to mechanical irritation which it usually shows in cases of tetany.

The feeling of heat from which the patient constantly suffered, and on account of which she always wished to be in a very cold room, might well be the result of the widespread, strong and constant muscular contraction; and yet, in spite of this constant, excessive muscular contraction, the patient still retained voluntary power over her muscles, and was able to execute a great variety of movements, albeit slowly and with difficulty. This fact, that the patient retained the power of voluntary motion indicates that the lesion or functional disturbance involved the gray matter of the subcortical centres rather than that of the cerebral cortex. The spasm, indeed, was not unlike that which might result reflexly in consequence of some powerful irritation; but no such irritation could be found, and the administration of anthelmintics resulted in no evidence of the presence of intestinal parasites.

If the diagnosis of tetany is correct, the case seems to be one of rheumatic tetany, inasmuch as a severe exposure to rain was the apparent cause of the disease. Usually cases of tetany are easily amenable to treatment, but this case showed no improvement during the time that the patient was in the hospital. The case might, perhaps, be regarded as one of hysterical contraction; and, I think, that it may be instructive to compare it with a case of hysterical contracture which was almost as widespread and was of even longer duration.

CASE II.—B. B., twenty-five years of age, single, entered St. Peter's Hospital April 27, 1886. Patient's family history good. Eight years ago she had an attack which was pronounced hip disease, and was under treatment for one year and a half. She recovered quite suddenly and was able to walk with some difficulty. About two years ago she was attacked by a pain in her hip which seemed to draw her knees up, and when she attempted to walk she could only do so on her toes. It was pronounced curvature of the spine by the physician and a plaster jacket was applied, but afforded no relief. Attempts were made to straighten her legs by placing a padded board heavily weighted across her knees. About two months after the removal of the jacket she had a severe pain in her back, which extended up the spine to the base of the skull. Blisters were applied which afforded some relief, and she was able to sit up and move about the room. Since then she has had five similar attacks, and has been bed-ridden. About one year from date of the first attack she began having spasms at short intervals and was unable to take any medicine. The date of the last spasm was about four months ago. Patient complains of loss of sleep and appetite, and also that if she tries to swallow liquid of any kind it runs from her mouth before she can swallow it. During the past two weeks she has taken no food of any sort, as far as can be ascertained. She takes milk in her mouth but seems unable to swallow it. Bowels are constipated. Takes cracked ice freely. Lies in a fixed position and cannot make any movement except with her arms, and they act only imperfectly.

Her legs and thighs are flexed so that the heels almost touch the buttocks. The outlines of the muscles are not visible, and the muscles do not feel hard and contracted unless an effort is made to extend them. By steady traction the legs can be extended, but it is difficult to extend the thighs on the body. The arms are not held in any fixed position, but the head is drawn so far to the right that it almost touches the right shoulder. A couple of days ago there was no particular anæsthesia of the hands or arms, but there was of the legs. To-day there is almost complete anæsthesia and analgesia of both the arms and the legs. When the legs are extended they become flexed again very gradually; and when her attention is diverted they remain extended for some time. Abdomen is much retracted. There is no ovarian tenderness on either side. Extremities cold. Pulse small and rapid.

A few drops of a four per cent. solution of cocaine were dropped into her mouth, after which with some difficulty she managed to swallow a pint of milk. After that she took milk freely, each cupful being preceded by a few drops of the cocaine solution, and a week later she began to take solid food and the cocaine was stopped. At this time she had incontinence of urine and feces and was almost constantly soiled. Her legs, which were completely anæsthetic and analgesic, were straightened by passive motion several times daily, each time causing much pain in her back.

In the middle of May, her general condition having improved somewhat, the daily application of electricity to her legs was commenced, the faradic current being used because it was found to produce a more decided effect on the muscles than the galvanic current. In less than a week the electricity had produced great improvement, sensibility in all its forms had returned completely in the legs, she was herself able to extend her legs almost completely, and the incontinence of urine and feces ceased. She was able to sit up in a rocking chair, but her head continued to be strongly drawn to the right, and she insisted that one leg was shorter than the other, although the apparent shortening was evidently due to a drawing up of the pelvis on that side. The electricity was now applied exclusively to the neck and hip, and at the same time she was confidently assured that the electricity would lengthen her leg; with the result that three days later she could move her head freely in all directions, and the legs were apparently and actually of the same length. By the end of May she was able to walk about without assistance, and on June 6th she was discharged well.

July, 1888. I have seen the patient at intervals during the past two years and she has continued perfectly well.

REMARKS.—In this case the spasm, though widespread, was not nearly so general as in the case of tetany; the muscles of the arms and body not being affected and the muscles of the neck being contracted on one side only, such unilateral spasm being common in hysteria and never occurring in tetany. The character of the muscular contraction was altogether different in the two cases; in the case of tetany the muscles were hard and clearly defined and evidently at all times firmly contracted, while in the case of hysteria the muscles felt soft and were apparently scarcely contracted at all unless an effort was made to extend them. The contraction seemed rather to be a voluntary one, which was only made when it was necessary in order to keep her limbs in the fixed position. In the case of tetany, notwithstanding the muscular spasm, the patient was able to move her limbs, although slowly and with difficulty; while in the case of hysteria, as is usual in such cases, with the spasm was combined an apparent muscular paralysis. In the second case there was a history of previous attacks of various kinds with sudden recoveries, and there were also disturbances in sensibility and in the organic reflexes which disappeared with great rapidity under treatment.

Very characteristic, furthermore, was the deportment of the two women. In the case of tetany the patient was a naturally acting woman, although of weak intellect; but in this last case, as well as in the case of the boy presently to be described, there was a certain attempt to produce a theatrical effect which is hard to describe but is easily recognized. The whole attitude of the patients seemed to demand sympathy, and at the same time it was evident that they were watching most intently every action of the physician and attendants.

One of the fixed ideas which the hysterical patient cherished the longest, was that one of her legs was shorter than the other, and it required a very decided assurance that the shortening would disappear under the use of strong electric currents, before she abandoned that idea. Such localized muscular spasms are common in hysterical subjects and not infrequently give rise to errors in diagnosis, and such spasms also occur in persons with irritable nervous systems, apparently as the result of some peripheral irritation, in which case they have been called reflex spasms. The following case may serve as an illustration of errors of diagnosis from such reflex spasm.

CASE III.—W. W., twelve years of age. He states that he has never been sick, except that, in the spring of 1882, a lump suddenly appeared in the left lumbar region, persisted for about a week, and then disappeared just previous to the arrival of a surgeon who had been sent for to examine it. In the fall of the same year it was noticed that he limped badly. A surgeon of considerable prominence examined the

leg and thought that the left leg was decidedly shorter than the right, that the left trochanter major was above the line connecting the anterior superior spinous process of the ileum with the tuberosity of the ischium and that the left hip was dislocated. He accordingly gave the boy ether, and while manipulating and moving the thigh before he attempted to reduce it, the "dislocation," to his surprise, was suddenly reduced. A few days later, without any fall or accident, the same condition of things returned, and the boy was again etherized and the "dislocation" was again easily reduced. Ten days later, the boy went to bed as well as ever, and in the morning his hip was again "dislocated."

On that morning I examined the boy for the first time. He was lying in bed without pain and could move himself about easily. The left leg was held stiffly extended and was apparently two inches shorter than the right. On actual measurement, however, the legs were found to be of equal length, and the apparent shortening was due to a drawing up of the pelvis on the left side. All the muscles about the left hip-joint were hard and evidently firmly contracted, and just above the trochanter major was a bunch of contracted muscle which bore some resemblance to the trochanter major itself and might have been mistaken for it. The hip-joint was held stiffly by the muscular contraction and resisted passive motion. The right tibialis anticus muscle was also in a condition of chronic spasm. No anæsthesia. Long prepuce, which could not be retracted. The boy remained in the same condition for thirty-six hours, when the surgeon, whom I had not seen, came and reduced the "dislocation" under ether; "the bones going into place," he said, "with a sharp click."

A month later, without any known cause, the same symptoms again appeared. At that time I saw the boy with the surgeon, and we agreed that it was simply a case of muscular spasm, and, on giving the boy ether, without any manipulation whatever the hip returned to its normal condition. A month later the boy was circumcised, an adherence of the prepuce being found at a point close to the corona. The boy remained under observation for some time after the operation, but there was no return of the spasm, and I heard from him some two years later, and learned that there had been no return of the spasm in that time.

REMARKS.—It is doubtless true that the influence of an adherent prepuce in producing nervous disturbances reflexly has been greatly exaggerated; and, in such a case as the one just described, it is very difficult to say whether the boy suffered from an hysterical or a reflex contraction. After he had been given ether for the last time, he was made to understand very plainly that the doctors understood his case and that he would not be able to deceive them again, and the moral effect of this might have had quite as much to do with preventing further attacks as had the circumcision; and, certainly, after the last etherization there was no return of the spasm during the month which elapsed before he was circumcised. There are, however, many cases of spasmodic and convulsive attacks in "nervous" children, which are relieved by removing or freeing an adherent prepuce, and in which the cure can hardly be explained by any moral effect of the operation, but seems to be due to the removal of the irritation.

The three cases described above all probably depend upon some alteration in the central nervous organs; but the alteration, if it exists, has not, as yet, been detected, and they must be considered as examples of functional spasm. Organic diseases of the motor tract in the central nervous organs may give rise to continuous tonic spasms, which are usually confined to one limb or to one side of the body; and tonic spasms of a transitory character occur in the "occupation neuroses" and in other forms of nervous disease; but it is probable that all forms of chronic functional tonic spasm are varieties either of tetany or of hysterical contraction, or of reflex contraction.

MEDICAL PROGRESS.

The Treatment of Syphilis by Inunction.—FOURNIER, of Paris (*Rev. Gén. de Clinique et Thérapeut.*), in a clinical lecture, dwells upon the treatment of syphilis by inunction. The patient is first placed under a tonic regime; laxatives are not prescribed; the patient eats as much meat as he pleases; he takes walks—in fact, he is advised to spend much time in the open air; hydrotherapy and sea baths are ordered. Among ointments for inunction. that of the bichloride of mercury and the ordinary blue ointment are to be preferred. Recently, soaps, composed of equal parts of mercury and soap, have been proposed. The disadvantages of these are, that the inunction requires too much time. The dose of the ointment (unguent. hydrarg.) at first is a drachm; in the course of time it can be increased to a drachm and a half and two drachms. In the case of women and children, in view of the lesser tolerance, correspondingly smaller doses must be used. With children, thirty-five grains should not be exceeded. This dose is sometimes indispensable, but it should be remembered that fifteen to thirty grains may be given to infants only a few days old, without harm. In cases of severe syphilis, syphilis of the brain, and during a course of treatment with sulphur baths, in adults, the dose mentioned may be exceeded. Every application should be made with a definite quantity of ointment—for instance, seven drachms of mercurial ointment are ordered for one week, in seven equal parts. As a rule, the inunction should be performed but once a day, preferably before retiring for the night. The lecturer applies the friction to the side of the chest. This offers a large extent of surface, and the patient himself may undertake the application.

Two precautions are to be observed: 1. The ointment should not be rubbed into the scrotum, the groin, the pubes, and the axilla, because of too ready absorption. 2. To avoid irritation of the skin, the site of application should be varied, alternating the left and right sides of the chest, the inner surfaces of the arms and thighs. The friction is continued fifteen minutes for a drachm of the ointment, thirty minutes for a drachm and a half or two drachms. The application must not be a mere anointing, but the skin must actually be rubbed, but not with great energy. The parts treated are covered with cotton, linen, or flannel; if the chest, held in place by a binder; if the arm, by a shirt sleeve, etc. The ointment remains upon the affected part throughout the night, and is removed in the morning with soap and water. Twice a week a thorough bath is enjoined. Nothing definite can be stated relative to the number of applications. If the patient can be kept under observation, the treatment should be continued for from two to four months. It is agreed that it should not be too long continued, because, after a certain time, the mercury is no longer tolerated by the system. If the treatment becomes objectionable, the inunction may be omitted for a few days, to be again renewed.—*Deutsche medicin. Wochenschr.*, September 20, 1888.

Phenacetine.—There are three varieties of phenacetine: orthocet-phenatidine, paracet-phenatidine, and melacet-phenatidine, and DUJARDIN-BEAUMETZ has found, after much investigation, that the second named variety is the only one to be relied on. With this he obtains positive results and claims its superiority over antipyrine, in that it causes no eruptions. It may be given for much the same uses as antipyrine, but is, *par excellence*, the analgesic. He gives from fifteen to thirty grains in capsules. —*Journal de Médecine*, September, 1888.

Parkinson's Disease.—In the *Lyon Médical*, M. GAUTHIER reviews the standing of this affection, and concludes that it is not a neurosis; that the symptoms are exclusive muscular; and that the rigidity is produced directly by muscular causes without the intervention of any nervous element. He characterizes it as idio-muscular, but thinks it may be due to phosphaturia, with which these patients are often afflicted. In turn, the phosphaturia may be originated from purely muscular causes.

Treatment of Neuralgia.—DR. GREEN reports in the *Medical Press and Circular* for September, 1888, good results from the use of chloride of ammonium in twenty grain doses. One of his most obstinate cases, which had resisted treatment for months, was speedily cured by this drug.

Phenacetine for Migraine.—RABUSKE gave phenacetine to a female patient who was subject to prolonged and excessively painful attacks of *migraine*, with the happiest results. Arsenic, antipyrine, and electricity had all failed, and the patient's life became a burden. Phenacetine, in eight grain doses, morning and evening, effected a cure. —*Deutsche medicin. Wochen.*, September, 1888.

For Diabetes.—M. CONSTANTINE PAUL recommends the following mixture for those who demand the sweet flavor and are prohibited sugar. A teaspoonful contains twenty-five centigrammes of saccharin, sufficient to sweeten a glass of water:

℞.—Saccharin	. . . . .	6 parts.
Sodii bicarb.	. . . . .	4 "
Alcohol (40 per cent.)	. .	100 "
Ol. menth.	. . . . .	gtt. xx.—M.

—*Am. Journal of Pharmacy.*

The Action of Strophanthus.—A. MAIRET, COMBEMALE, and GEOGNIER, who on November 5, 1887, presented to the Paris Société de Biologie a report of their studies upon the action of strophanthus, now confirm the clinical observations that diuresis is produced and the blood pressure raised, that the pulse is slowed, but contradict the hypothesis hitherto generally received that the cause lies in the action of the drug upon the heart. Strophanthus has a specific action neither upon the cardiac muscle, nor upon ths cardiac ganglia, nor upon the medulla oblongata. Furthermore, they believe that the remedy acts solely as an irritant and more especially upon the kidneys. They found confirmation of this view at autopsies in effusions into the endocardium, into the lungs, in hepatic stasis and irritation of the kidneys.—*Deutsche medicin. Wochenschr.*, August 2.

Translucency of Tumors.—While translucency of tumors is generally conceded to belong to those with liquid contents, M. PONCET draws attention to the fact that this property is possessed by many *solid* tumors. He mentions several cases in support of his statement, among them being an enchondroma of the fingers, lipoma of the palm of the hand, and a tendinous cyst of the wrist, all of which permitted the passage of light.—*L'Union Médicale*, August 28, 1888.

The Differential Diagnosis between a Buccal Fistula below the Inner Angle of the Eye and a Lachrymal Fistula.—According to SCHEFF (*Wiener med. Wochenschr.*, No. 12, 1888), a buccal fistula below the margin of the orbit differs from a lachrymal fistula in that the former is never accurately at the orbital margin, but an eighth to a fifth of an inch below; that a sound never passes upward, but only downward or laterally, posteriorly; that the secretion is always purulent.—*Medicin. Chirurg. Rundschau*, August 1.

Local Treatment of Ulcers.—ROCHARD recommends frequent dressings if the discharge is abundant, and if there is much pain light coverings saturated with a decoction of marshmallow and poppy leaves. If gangrene threatens, the treatment is to be strictly antiseptic. For indolent ulcers he relies on balsam of Peru, and also has good results from the red oxide of mercury ointment. Iodoform is an antiseptic of great value, and markedly diminishes pain, showing its best results in venereal and phagedenic sores. Occasional cauterizations with nitrate of silver favor healing.—*L'Union Médicale*, September 8, 1888.

Tannic Acid in Burns.—NIKOLSKY (*St. Petersburg. med. Wochenschr.*) has successfully used a tincture of tannic acid in eighteen cases of burns of the first and second degrees. He directs: Acid. tannic, ʒj, alcohol (95 per

cent.) q. s. (*i. e.*, about ℥j), Ætheris, ℥j. M. s. The solution is to be preserved in a vessel with a glass stopper. The burned part is cleansed with a disinfectant. The tincture is then brushed over the surface until a firm membrane has formed. This is repeated twice or thrice daily, as the membrane ruptures. A dry compress is placed over the wound. The vesicles are incised, their contents expressed with cotton, the surface of the wound dusted with iodoform and then painted with the tincture. The pain is thus much diminished; the treatment is not protracted.—*Deutsche medizin. Wochenschr.*, August 2.

Tuberculosis and Hydrofluoric Acid.—M. GOETZ, who has used this medicament quite extensively in pulmonary tuberculosis, concludes that its greatest value is in the restoration of the appetite, and finds this the most constant and favorable of its effects. The night-sweats are very often greatly diminished and, in many cases, the fever is modified. The diarrhœa and cough are not much affected, and he is not yet prepared to say that the *bacillus* is completely destroyed.—*Revue Médicale*, Aug. 20, 1888.

Strychnine in Alcoholism.—BERBLINGER. (*Russ. Med.*, 1887, No. 38) has permanently cured drunkards of alcoholism by twenty injections of $\frac{1}{100}$ gr. of strychnine.—*Deutsche medizin. Wochenschr.*, August 2; *Prag. med. Wochenschr*, 1888, No. 4.

Local Dressing for Variola.—

℞.—Iodoform . . . . . gr. xxx.
Camphoræ pulv. . . . gr. lx.
Vaseline . . . . . ℥ jss.—M.

Apply twice daily where there are smarting and abrasions.—*L'Union Médicale*, September, 1888.

Antipyrin for Uterine Colic.—WINDELSCHMID (*Allg. med. Centr. Ztg.*, No. 53) has had good results from the use of antipyrin in menstrual colic. He gives doses of thirty grains per anum during the menstrual period. Relief generally followed in a quarter of an hour; in one instance the clyster had to be repeated in twelve hours. In two cases in particular, in which all known means were used before and during the period, the pain and cramps lasting at times eight days, the injections, made morning and evening and on the following evening, were followed by the best results. A deep narcotic effect was noticed in conjunction with the sedative influence. Disagreeable complications, barring excessive perspiration and sometimes slight ischuria, did not arise. To avoid any exhaustion a glass of wine or beer was often given. The administration of five grains by the mouth to a seven year old boy was attended with urticaria and high fever of twelve hours' duration.—*Wiener med. Presse*, No. 30, 1888.

Physostigma in Chorea.—RIESS has recently recommended the use of physostigma hypodermatically in chorea. He has used it many times with favorable results; finding, in some cases, a total cessation of the convulsive movements in six days. The cases occurred mostly in youthful subjects, and it was not so promising in the graver cases of adults. Still it did not always fail in those cases. He has used it in tetanus, paralysis agitans, spinal sclerosis, and in a case of hysteria in the male, accompanied with great excitability and increase of reflexes, with results that warrant a further trial. The dose was one milligramme.—*Les Nouveaux Remèdes*, No. 17.

Creasote in Carbonic Acid Water.—J. ROSENTHAL, of Königsberg, recommends (*Berlin. klin. Wochen.*, Nos. 32 and 33) the administration of creasote to the tubercular in carbonic acid water, containing to the pint nine or eighteen grains of creasotum purissimum, with an ounce of Cognac (the dose to be increased until twelve grains are daily administered).—*München. medicin. Wochenschr.*, August 14.

Diarrhœa of Infancy.—VEILLARD considers the essentials of treatment to be the cleansing of the gastro-intestinal tract of any undigested substances, and of microbes or ptomaines which rapidly develop. He uses castor oil, but prefers phosphate of soda, in doses of five to ten grains, to which he attributes antiseptic properties.—*Journal de Médicine de Paris*, September, 1888.

Hot Water in Hemorrhage from the Stomach.—FLASHAR (*Allgem. med. Centr. Ztg.*, Nos. 55–58) considers draughts of hot water the safest and pleasantest remedy for hemorrhage from the stomach. Water, as hot as can be borne, is given in quantities of a half to three-quarters of a tumblerful. That coagulation of the blood occurs speedily is often shown by fragments of clot which are subsequently vomited without further hemorrhage.—*Therap. Monatsh.*, August, 1888.

New Disinfectant.—

℞.—Essence of rosemary . . 100 parts.
Essence of lavender . . 25 "
Essence of thyme . . 25 "
Acidi nitrici. . . . . 200 "—M.

Shake the bottle containing the mixture, pour a little upon a sponge and allow it to evaporate. The vapors will mask any bad odors and destroy germs. This preparation is especially applicable in the sick room.—*Gazette Médical de Nante*, September, 1888.

Antipyrin in Psychiatrical Practice.—Investigations with antipyrin were undertaken by FISCHER (*Pest. Med.-Chir. Pr.*, No. 33) at the insane asylum at Buda-Pesth. Given in doses of seven and a half to twenty-two and a half grains, the remedy proved to be a nervine in cases of headache and neuralgia, particularly in the trigeminal neuralgias of the hysterical; the result was unsatisfactory when the headache was the consequence of an already existing pathological change in the cerebrum. Antipyrin was inefficient in epilepsy; in individual cases, however, it manifested a hypnotic influence. It is not a reliable hypnotic.—*München. medizin. Wochenschr.*, Aug. 14.

Ichthyol in Carbuncle.—FÉLIX, of Brussels, reports excellent results from the use of a mixture of ichthyol and camphor cerate, four parts of the former to fifteen of the cerate. He covers the carbuncle thickly with this and, at the end of twenty-four hours, removes the dressing and applies the stick of nitrate of silver to the suppurating points. He finds a rapid reduction of pain and swelling.—*Rèvue de Thèrapeutique*, September, 1888.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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SATURDAY, OCTOBER 13, 1888.

CEREBRAL LOCALIZATION AT THE WASHINGTON CONGRESS.

WHILE the whole Congress, with its two hundred and forty papers, and its distinguished *personnel*, was a great success, high-water mark was reached in the brilliant discussion on "Cerebral Localization." The abdominal surgeons, for a long time, have had it almost all their own way; but, for once, at least, they have had to yield to their rivals in this new field. Even in literature the *Uncloseted Skeleton* shows the deep and instant impression that cerebral surgery has made, not only in professional circles, but even on the public mind.

Two important papers had been read before the Surgical and Neurological Associations, relating four successful cases of operation: one for a large tumor, one for traumatic epilepsy, and two for focal epilepsy. These papers were in every way worthy of the subject, and awakened a lively interest among the many practical surgeons and neurologists in attendance. Following these, came the general discussion in the Congress itself. The novelty of the subject, and the admirable papers then read by Mills and Park, alone would have made this worthy of notice; but when we add the able discussion, and especially the thoughtful and polished addresses of Ferrier and Horsley, it becomes a notable event in American surgery.

It is a pleasure to notice that the whole subject of cerebral surgery is Anglo-Saxon in its origin, and thus far Anglo-Saxon in its development, with the single exception of Durante's case of tumor. No operation has been reported up to the present time, we believe, that is not either English or American.

The Congress will give a most important impetus to intra-cranial surgery, an impetus that will be both an advantage and a danger. The advantage will be that, as one speaker said, we shall rapidly "make experience," and learn how far we can go, and what we can prudently do. The danger is, that we shall have speedy reports, we fear, of operations that are evidently unwise, and that may possibly bring discredit on the whole subject. It will but repeat, however, what has already occurred in other new operations, and the use of new drugs, and will be its own corrective. Oscillation to each extreme always precedes rest.

We think it was clearly manifested in the discussion on these papers, however, that exploratory operations on the cranium are justified, as much so as those of the abdomen, and that we shall have to do them, not uncommonly, in order to verify, and sometimes even to make a diagnosis.

The analogy that was drawn by KEEN between the viscera of the trunk and the areas in the cerebral cortex, while not, of course, literally true, will, perhaps, give a good many in the profession a clearer idea of the organization of the brain; of the possibility of differentiating the diseases of the various centres by their symptoms, and their physical signs; and of the propriety of operations upon them.

HORSLEY'S address was particularly full of good points. His explanation of the various cortical motor areas in their relation to each other, as not separated by hard and fast lines, but shading into each other, with certain foci of more marked reaction, was very well stated. He insisted, also, that, in operating it is necessary, in order to effect a cure, that the excision should be complete, rather than the cautious excision of only a portion of the area of representation. This completeness, it must be especially remarked, involves the removal of more brain-tissue in the horizontal plane rather than in the vertical. In the vertical direction the transitions from the area of representation for one part of a limb to another, or even from one entire limb to another, is very much more marked than in the antero-posterior direction. The effect of antiseptics in speedily dulling, and even obliterating the response of the cortex to faradism, should be carefully borne in mind, and as soon as the brain is exposed the battery should be used immediately. His ex-

periment of tapping the cord to determine whether the clonic and tonic phases of the convulsion were due to the cortex or to the cord, was one of the most ingenious and brilliant that he has done.

In DR. PARK'S address we regretted to see his measurements expressed so much in "inches." Definite measurements cannot be accurate for all heads or for all ages. We should insist, especially at present in the initial stage of the application of cerebral localization, that the measurements shall not be absolute, but proportionate or relational whenever it is possible so to express them.

Another noticeable point was the hope expressed by FERRIER and other speakers, that even mental affections, especially those pertaining to hallucinations, and probably to other forms of insanity, may yield to surgical therapeutics in the future. At present our knowledge of the localization of the sense centres, still more of those for the emotions or other intellectual processes, is too imperfect for us to dogmatize. It is not unreasonable to hope, however, that experience will give us before long the means to locate, at least, some of the mental functions in particular areas of the cortex, and so lead to their successful treatment. In fact, Macewen has already in part realized this.

Five years ago the *Lancet*, in a leader, denounced Ferrier for his revolutionary ideas on cerebral surgery. It is scarcely too much to hope that, five years hence, the *Lancet* may congratulate Ferrier on his cure of some forms of insanity, as well as of those lesions which even now have been made amenable to the knife.

Another point we cannot help but notice. When Mr. Godlee, four years ago, announced for the first time the removal of a cerebral tumor, the operation was claimed, and rightly so, as one of the most direct and promising results of vivisection. The death of the patient gave rise to the most sarcastic attacks by the anti-vivisectionists. But they should have seen that, like the failure of the first Atlantic cable, it but pointed out the road to success. Of course, cerebral surgery is not wholly due to vivisection. Pathology may claim a large share in its evolution. But it is absolutely certain that, without vivisection, cerebral surgery to-day would not only be an impossibility, but probably would not have been realized for a score or scores of years to come, so indefinite and so inexact are the experiments of nature in disease.

We commend the papers and the discussions of the Congress to the *Zoöphilist*, and to the American Anti-vivisection Society, as a striking example before their very eyes, from day to day, of the active, practical development, and the beneficent results of vivisection.

DIET IN THE CONVALESCENCE OF TYPHOID FEVER.

A PAPER read by DR. HUTCHINSON, of Philadelphia, at the recent meeting of the Association of American Physicians, on the "Management of the Stage of Convalescence in Typhoid Fever," dealt fully with the risks attending this important period of the disease, and elicited a most interesting discussion upon the question of diet, about which opinion in the profession is still divided. DR. PEABODY, of New York, urged that, in mild cases, solid food might be given with advantage on the subsidence of the fever, when an urgent craving existed. He had never seen any ill effects from finely divided meat given once or twice a day. DR. ORD, of London, quoted a remarkable instance in support of the plan of allowing the appetite of the patient to be the guide in diet.

No absolute rule can be laid down, and each case must be considered by itself. The majority of practitioners will continue on the old plan of carefully regulating the diet during the first ten days after the temperature falls to normal. Relapses, we believe with DR. KINNICUTT, are rarely the result of imprudence, but the consequence of reinfection, and the rise in temperature, which we occasionally see after taking solid food, is not often more than a recrudescence of the fever. An early return to mixed diet, if carefully regulated, is rarely followed by grave complications, but almost every one with large experience has met with cases of perforation or peritonitis the result of some grave imprudence on the part of the patient. A deep ulcer may leave only a thin layer of the muscularis covered by the peritoneum, and we have known a full meal of mutton-chops, in the third week of convalescence, to be followed by a fatal peritonitis from perforation.

DR. WILLIAM OSLER, Professor of Clinical Medicine in the University of Pennsylvania, has been elected Professor of Medicine in the Johns Hopkins University and Physician to the Hospital, and the tender of the unsolicited position was accompanied with such substantial inducements as to insure its acceptance. This selection is another proof of the

admirable judgment displayed by the managers of the Hospital in the administration of their great trust.

Dr. Osler's large circle of friends will regard his merited appointment with sincere gratification, although to those in Philadelphia this will be tempered by a feeling of deep personal regret at his removal to another city.

THE right of an author's ownership in his lectures has been again affirmed in the Common Pleas Court, on the application of Prof. T. G. Wormley, of the University of Pennsylvania, for a preliminary injunction to restrain W. B. Saunders from publishing and selling certain books containing notes on medical and general chemistry, which Dr. Wormley says are simply a summary and condensation of lectures delivered by him in the University of Pennsylvania, and were published by the defendant without his warrant or authority.

THE *University Magazine* is a new monthly, edited by Drs. de Schweinitz and Hare, in the interests of the Medical Department of the University of Pennsylvania. The first number has just been issued, it contains several excellent papers, and gives promise of a healthful and useful life.

AN experiment is announced to be tried in Brooklyn, in the way of forming a "protective alliance"—mellifluous synonym of "trades-union"—among the practitioners of medicine of that city, whereby their financial interests will be protected from imposition. This they expect to accomplish by the issue, for private use, of a list of names, commonly known as a "black list," and by the organization of a robust bureau of collection.

A great variety of experiments have been made in the large cities of this and foreign countries, for the protection of the financial rights of medical men, having for their keystone some form of "black list," but they have ordinarily been disappointing and short-lived. However well such lists may operate among grocers, tailors, and the like, there seems to be something radically inappropriate in the application of them to the healing art. The "boycott" too readily becomes an engine of oppression, and too much responsibility rests on a possible error of judgment or feeling of pique, on the part of some colleague, to become a part of the armamentarium of the disciples of Æsculapius.

DR. ELKANAH WILLIAMS, of Cincinnati, died on the 5th instant, after a long illness. He was born in Lawrence County, Indiana, on December 19, 1822, and graduated in medicine at the University of Louisville in 1850. In the autumn of 1852 he went to Europe to study ophthalmology, returned to Cincinnati in the spring of 1855, and commenced practice as a specialist in diseases of the eye and ear. In 1860 he was elected Professor of Ophthalmology in the Miami Medical College. He was elected President of the Fifth International Ophthalmological Congress which met in New York in the autumn of 1876. He was the author of several valuable papers in ophthalmological literature. His death removes from our midst one of the pioneers in this country in the development of modern ophthalmology.

In another column will be found the resolutions adopted at a meeting of the medical profession of Cincinnati expressive of the loss they have sustained.

REVIEWS.

AN ILLUSTRATED ENCYCLOPÆDIC MEDICAL DICTIONARY. BEING A DICTIONARY OF THE TECHNICAL TERMS USED BY WRITERS ON MEDICINE AND THE COLLATERAL SCIENCES, IN THE LATIN, ENGLISH, FRENCH, AND GERMAN LANGUAGES. By FRANK P. FOSTER, M.D., Editor of the *New York Medical Journal*. Vol. I., 4to. pp. xii. 752. New York: D. Appleton & Co., 1888.

THIS immense work is designed to give English definitions of all words used in medicine and the collateral sciences, in the English, French, and German languages. If this alone were done, its size need not to be nearly so great. In the present quarto volume, of between seven and eight hundred pages of small type, A, B and only a part of C are included. The first of the four large volumes of Johnson's *Cyclopædia* covers all subjects from A to E inclusive. So that, on its present scale, six volumes at least will be required to complete the work.

The occasion for this bulk is the encyclopædic extension given to the definitions of certain terms. This is very unequally done. Very many words, in each of the three languages, are briefly defined. Others, as *Apparatus*, *Bacillus*, *Bacterium*, and *Bone*, are exhaustively or, at least, elaborately, treated; each covering large numbers of pages. Again, the enumeration of similar French or German and their equivalent English terms is, in several cases, extended greatly; to our view, beyond the real needs of those who are likely to make use of such a dictionary.

Were the whole work to be carried out on a similar scale to that of the articles on *Bacillus* and *Bacterium*, a dozen or perhaps a score of volumes would be required for its completion. But many distinctly medical subjects are very briefly dealt with; more so, relatively, than in the three volumes of Copland's *Dictionary of Medicine*. On a considerable number of subjects, Dunglison's *Med-*

ical Dictionary gives as much, or, sometimes, even more, practical information.

Dr. Foster has been aided in the very great labor of this work by eleven collaborators. Among these, Dr. Duane appears to have taken the largest share. Chemical and botanical terms receive what, in justice, must be called a disproportionate amount of attention and space. Some plants which are seldom, if at all, used in medicine, are as exhaustively treated as would be necessary in a strictly botanical dictionary. While the result thus attained is highly creditable to the learning and industry of their author or authors, it is a question whether the practical value of the work is increased thereby in any like proportion. For our own use we would rather have had a simple medical dictionary of terms in the three languages; for which a single volume, perhaps less in bulk than this, might have sufficed. In favor of the plan adopted, however, we have the judgment, based on editorial experience, of the editor, Dr. F. P. Foster, and that of the able managers of a leading publishing house. We hope that their anticipations of its acceptance by the profession may be fully realized.

SOCIETY PROCEEDINGS.

ASSOCIATION OF AMERICAN PHYSICIANS.

Third Annual Meeting,
Held at Washington, September 18, 19, and 20, 1888.

(Specially reported for THE MEDICAL NEWS.)

(Continued from page 394.)

SEPTEMBER 18TH.—MORNING SESSION.

DR. J. C. WILSON, of Philadelphia, then read a paper on

CAUSAL THERAPEUTICS IN THE INFECTIOUS DISEASES.

Referring to the discussions of Hoffer, Brieger, Vaughan, Bourget, and others in regard to the part played by microorganisms in the production of ptomaines in the living as well as in the dead body, he stated that much had been done within recent years in clearing up the relation between the specific pathogenic germs of the infectious diseases and the symptomatology of these diseases. Efforts to work out a system of therapeutics directed against these germs have thus far been successful only within narrow limits and chiefly in local treatment, as in surgery and midwifery. Not the germs themselves, but the poisonous principles evolved by the germs in their growth and multiplication cause the phenomena of these affections. Is it not possible that, by acting upon the tissues and fluids of the body therapeutically, the function of these toxic principles may be controlled. In the preservation of meats and other articles from decay, it is the substance itself and not the putrefactive germ that is acted upon. In vaccination and preventive treatment by attenuated virus, the organism—not the pathogenic microörganism—is acted upon. The paper was based upon five cases of severe enteric fever successfully treated by hypodermatic injections of calomel, and three cases of phthisis, in which the symptoms were greatly ameliorated without any decided change in the local signs, similarly treated. Dr. Wilson desired the report to be regarded simply as a clinical experiment and as indicating a line of clinical research worthy of investigation. The paper was illustrated by clinical charts showing striking modifications of the usual temperature ranges in these diseases.

DR. GEORGE M. STERNBERG said that this subject was a very prominent one to-day, and every experiment has its value. He then referred to a method of treatment of yellow fever which he had suggested when in Havana recently. Believing that in yellow fever there must be a germ having the alimentary canal as its proper location and knowing that the secretion in the stomach is unusually acid, and finding the contents of the intestines to be acid, he, therefore, used an alkali, the bichloride, in moderate doses by the mouth. The formula he employed was ten grammes of the bicarbonate of sodium to the litre of water with two or three centigrammes of the bichloride of mercury. He has received reports of thirteen typical cases of yellow fever successfully treated in this way in one hospital in Havana. A series of thirteen cases without a single death certainly speaks very strongly in favor of this method of treatment. He was anxiously awaiting further reports on the subject. With reference to the cases of typhoid fever just reported, he thought we needed a still more extended series of cases. Dr. Wilson spoke in one of his cases of constipation and an elevation of temperature at that point. Perhaps it has not occurred generally to physicians that there is a cause for that, independent of the specific agent. There is in the alimentary canal of man a microörganism which generates a fever-producing ptomaine. He had made experiments with this bacillus, both with the recent culture and the sterilized one. Two or three cubic centimetres of this bacillus produce a rise of temperature, as does also the sterilized culture. So we have a fever-producing organism constantly present in our intestines. It is probable that the degree of fever may depend upon this organism, which is normally present in the intestine. From the researches made by Ehrlich in Naples with regard to his cholera bacillus which is normally present in the intestines of healthy persons, and from many recent researches which he had made in Havana, he had come to the conclusion that this bacillus does not confine itself to the large intestine where it belongs, but is found in the small intestine and stomach as well. He simply wished to direct attention to the fact that constipation in these infectious diseases and increased temperature may be due to the production of this ptomaine, and the indication is to keep the bowels cleared out.

DR. I. T. DANA, of Portland, said that the accumulation of evidence has been such as to attract the attention of the profession to the fact that infectious diseases are due to some form of bacteria. It seemed to him that some remedy could be found which might be safely introduced into the human system and destroy those germs. All who have thought of it, and who have experimented, must have come to feel apprehensive lest no medication could be found that could destroy the germs without, at the same time, destroying the individual, but it seemed to him that the suggestions drawn out by this very interesting paper are full of hope. It seemed to him the tissues of the human body may be so changed that they may be able to resist the action of the germ. The tissues may be rendered non-putrefactive. The ptomaine may be destroyed. By modifying the soil or preventing the activity of the ptomaine rather than by destroying the infectious germ itself in the human system he thought it likely that we will be able to modify these infectious diseases.

DR. GEORGE L. PEABODY said that at the meeting last year he had reported a number of cases of typhoid fever treated with naphthaline, and that, in a certain small number of those cases, he had seen a distinct abortion of the disease. His total number of aborted cases was only three, but they were distinct abortions of distinct typhoid fever. The three cases in the first ten or fifteen were the only cases in which an abortion of the fever was secured. He was quite convinced that naphthaline, as a means of aborting typhoid fever, is of very little value. He is at present pursuing the study of intestinal antisepsis in this disease, but his results are not sufficiently conclusive to justify him in bringing them before the Association.

DR. JACOBI said that, in this connection, he would refer to the treatment of diphtheria with the bichloride of mercury. This disease cannot be treated by any other remedy as well as by bichloride. It has the advantage of being readily soluble, and, in sufficient doses, counteracts the specific poison. As far as naphthaline is concerned, he has never seen a case of typhoid fever aborted, but he is positive he has seen the diarrhœa get better, and the odor of the movements, as well as their character, changes in a very short time after its administration. In the diarrhœa of tubercular cases, also, in a large number of cases he had seen good results follow the use of naphthaline, and he is positive it is well worthy of trial.

DR. W. W. JOHNSTON said that it is necessary that we should recognize the fact that many cases of typhoid fever pursue a downward course, and that we must prove that the remedy materially alters the course of the disease.

DR. WILSON, in closing, said that he did not claim that this treatment is anything more than a clinical investigation in the direction of general research to discover some method of treatment which appeals more or less directly to the causes of infectious diseases. The prevailing method of treatment is no treatment at all. Symptomatic treatment has no effect upon the general course of the disease, nor does it in any way abort it, and a treatment of expectancy is a confession of our inability to do any more. We are not at all aware of the mode of action of two confessedly curative substances used in the treatment of infectious diseases, viz., quinine in malarial disease, and mercury in syphilis. He was led to make these clinical investigations in consequence of his very successful use of calomel in syphilis, which resisted all other methods of treatment. He has been fortunate enough to escape the production of abscesses in a large number of cases treated in this way. Cases of enteric fever treated after this plan ran a milder course than any he had otherwise treated. His object in presenting this paper to the Association was rather suggestive than instructive, and he trusted no one would regard them as conclusive.

DR. FRANK DONALDSON, of Baltimore, then read a paper on

THE DIAGNOSTIC SIGNIFICANCE OF THE PRESYSTOLIC MURMUR,

which will appear in full in an early issue of THE MEDICAL NEWS.

DR. J. K. THACHER, of New Haven, said that in these cases of mitral stenosis in which there is reduplication of the second sound, the aortic valves close first and the pulmonary second. This seems to be due, at least in part, to a prolonged ventricular close-time on the right side caused by exaggerated tension in the pulmonary artery, with, in some cases, a shortened ventricular close-time on the left side, due to diminished aortic pressure.

The murmurs in mitral stenosis depend on the form and size of the auriculo-ventricular orifice and the strength of the current. The latter is determined by the relation of the tension in the left auricle and ventricle. The fact recently set forth by Rolleston that, as seen in dogs, there is a marked depression in the tension-curve of the left ventricle, at the beginning of diastole, seems to me to be applicable to the explanation of the initial diastolic (so-called post-diastolic) murmurs, whatever views are held concerning the suction action of the left ventricle.

DR. OSLER thought that all are agreed that there is one cardiac murmur above another, which is positive and distinct in its diagnostic significance, viz., the presystolic murmur. He had an instance at the University Hospital last year, in which he demonstrated to his class a mitral presystolic murmur. The case was one of cirrhosis of the liver in a child with great enlargement of the spleen. To his astonishment, he found at the autopsy a normal auriculo-ventricular orifice. The heart was pushed up very far. He has recently written out short notes of a case of aortic insufficiency in which there was a distinct presystolic murmur. A woman was sent to his ward in the hospital in an extreme condition of emaciation. He placed his hand over the heart in the apex region and felt a very distinct diastolic thrill and his ear also detected an extremely loud, rough murmur, which he regarded as presystolic. The woman was not in a condition to permit of further examination. At the autopsy the mitral orifice was found to be normal, but there was extreme aortic insufficiency.

DR. DONALDSON, in closing, said in regard to the diagnostic difference between the presystolic and systolic murmur, the rhythm, character, area, and direction of the presystolic sound are different from those of the systolic. Not long since he had a case in which the diagnosis of insufficiency of the aortic valve was very easily made without a sign of presystolic murmur. It has been frequently demonstrated that we find mitral stenosis at the autopsy in cases in which we have found a presystolic murmur during life.

DR. ROBERT T. EDES, of Washington, opened a discussion on the

ABSOLUTE AND RELATIVE VALUE OF THE PRESENCE OF ALBUMEN AND CASTS, AND OF RENAL INADEQUACY IN THE DIAGNOSIS AND PROGNOSIS OF DISEASES OF THE KIDNEY.

He said that many can remember when the discovery of the presence of albumen in the urine was regarded as a sentence of death. Albuminuria has held a place in medical literature akin to that of Bright's disease until quite a recent date. He thought there was no reason to discover a symptom, which to a physician can have no significance and to a patient is the source of groundless fears. Casts, he thought, were easier to identify than the different forms of albumen. There can be little doubt in the mind of any one that epithelial casts are very significant. There is probably no form of casts so unfavorable as long, large, straight casts, highly granular and fatty, looking like thin white threads.

They appear to be made up of degenerated cells. Where amyloid casts have appeared he has never known but one instance of recovery. A few casts may accompany a very slight amount of albumen and have no meaning. Where hundreds of persons have been examined the statement of no casts must be received with a certain amount of allowance. It is interesting to note that in oxalic acid poisoning albumen and casts were found in the urine by several observers.

The term renal inadequacy may be made to convey several shades of meaning. He would consider only the inability of the kidney to secrete water, urea, and other solids. He would not dwell upon this fact further than to say that oxaluria had a very serious prognosis.

The point of great interest is whether we can diagnosticate the early stage of chronic nephritis by a diminution in any one of the constituents of the urine. The statement of many text-books is that 30 to 40 grammes are an ordinary excretion for a healthy man. An amount a little below 20 grammes of urea is not to be regarded as below the limits of health. On low diet a patient may excrete 10 grammes of urea a day without any dangerous condition of the kidney. Chronic nephritis should have advanced to a considerable degree of atrophy before it makes itself manifest by diminution in the secretion. It may be safely concluded in cases in which the diagnosis is still doubtful that the determination of the amount of urea passed will give us no assistance. Imperfect nutrition with anæmia is a most frequent cause of diminished urea. It is not passed simply because it is not made. He would consider the presence of casts in the urine as a diagnostic sign of disease of the kidney. As to the examination for the quantity of urea, his impression is that it is almost of no value in diagnosis aside from other symptoms, unless the examinations are carried on for a length of time, and give the total amount, and not merely a percentage, which he considers of no value at all.

DR. EDWARD G. JANEWAY, of New York, said that, if we consider the diagnostic importance of albumen, we are forced to state that it is apt to be over-reached and its absence or presence is very misleading. The existence of an inflammation of the genito-urinary passages leading, as it does, to albuminuria, is liable to add the next greatest difficulty in relying upon albumen in the urine as a diagnostic sign. Fifteen years ago a young man, a patient of his, was supposed to have Bright's disease, from the fact of the presence of albumen in the urine. Suddenly a marked increase in the albumen took place and numerous pus cells were present. Fifteen years have passed since that time and no evidence of kidney disease has been shown by that young man. In diabetes albumen may be present, leading to errors of diagnosis and prognosis. The presence of albumen in small quantities in lead-poisoning does not lead to the fact that the lead produced chronic nephritis. At times albumen is absent from the urine in cases of waxy degeneration of the kidney.

In conclusion, he would say that a large quantity of albumen in the urine of several examinations points to either acute nephritis, large kidney, or waxy degeneration. Casts, while they are amongst the surest signs of disease of the kidney, may be misleading either by their presence or absence. If, by the microscope, we find hyaline casts present we are to consider some kidney trouble existing. A gentleman of good physique, a candidate for life insurance, whose urine contained casts, applied to him for examination. He applied for re-examination and he submitted samples of the night and morning urine. They failed to show casts. It was learned that he was in the habit of boxing for a half hour, perspiring freely, and then taking an alcohol sponge-bath. From this it follows that hyaline casts may appear in the urine, quickly formed and as quickly disappear.

DR. JAMES TYSON, of Philadelphia, then read a paper on

THE RELATION OF ALBUMINURIA TO LIFE ASSURANCE.

He said that medical examiners for life insurance companies have passed candidates who were the subjects of kidney disease. Functional albuminuria means that there is a functional disarrangement somewhere. The majority of medical examiners are not well educated nor well trained. There are three conditions that should govern candidates: 1. The applicant must present the signs of good health, extra-renal. 2. The albuminuria should be unaccompanied by casts. Casts and albumen can only receive one interpretation—structural change in the kidney, either acute or chronic. 3. The quantity of albumen irrespective of casts. If the quantity be large, it is unquestionably a proper cause for rejection. Urine which contains one-fifth its bulk of albumen may be certainly styled a large albuminuria. With regard to the specific gravity of the urine during twenty-four hours, the following rule may be laid down: Albuminuria is less significant when the specific gravity is high. When the specific gravity is above 1020, the assumption is that the albuminuria is functional; if it be 1010, it would be hazardous to accept such a case, however good his health may be, even in the absence of casts. Signs of hypertrophy of the left ventricle associated with albuminuria are conclusive symptoms of renal disease, and should exclude the candidate. In persons over forty years albuminuria is not likely to be functional. Such a person should not be accepted unless he has been long under observation. Persons who are the subjects of true gout should not be accepted, because it is followed sooner or later by kidney symptoms. Retinal affections should also exclude the applicant, even though no albuminuria be present.

DR. JACOBI said that to criticise papers of such excellence would be impossible, but he might be permitted to remind them of a simple anatomical fact which may explain the frequency at least in part of inflammatory diseases of the kidneys and the presence of albumen in children. It is true that children have diseases in which kidney trouble is very common. The anatomical fact to which he referred was that immediately after birth there is a peculiar discrepancy between the development of the renal artery and the growth of the kidney. The arteries do not develop uniformly. There is a certain discrepancy between the increase in growth of the renal artery and the growth of the tissue of the kidney. Besides, the capillaries of the kidneys of the young do not permit the same current of water to be pressed through them in the same time as the capillaries of the adult.

DR. PYE SMITH, of London, said that he had come to learn rather than attempt to give information. We have all felt the difficulty of deciding a case simply from the presence of albumen in the urine. He quite agreed with the author of the paper, as to functional albuminuria

being, at present, the most convenient term for that condition, because it depends upon several states differing very much from one another and only agreeing in the practical fact that none of them implies, structural organic disease of the kidney. Physiological albuminuria is a very mischievous one because it leads to the idea that we can overlook as a normal condition what certainly should always awaken a very grave anxiety. At present there is no physiological ground for believing that a healthy kidney secretes albumen at all. Those of us who have seen cases of physiological albuminuria so called will agree with him in saying that they are cases that must be carefully watched in order to prevent them from going from bad to worse and involving the kidneys in more serious trouble. He happens to be at present physician to a large London insurance company, and he would say that he had tried a great many tests for albumen in the urine, and he was driven back to the old test of heat and nitric acid as the most satisfactory of all. If we introduce new tests and new chemical criteria we would imperil the structure that has been reared during the past fifty years, clinically and pathologically. We cannot do better than keep to the results obtained by those two methods.

Dr. F. P. Kinnicutt said that about seven or eight years ago he published a series of cases of albumen occurring in children and adults, in all of whom the albumen existed in a large amount but without the presence of casts. He had an opportunity to keep these patients under observation up to the present time and in none of them has the health been impaired. In all the cases but one has there been a cessation of the albuminuria. It seemed to him that the future of such cases must be of interest to us.

Dr. F. Peyre Porcher said that in yellow fever albuminuria exists and is one of the most dangerous symptoms of that disease. He thought if yellow fever were treated during the first ten hours by large doses of mercury, quinine, and cold water, it might be reduced down to as little danger as any disease that exists.

Dr. Alfred L. Loomis then read a paper on

THE CARDIAC CHANGES IN CHRONIC BRIGHT'S DISEASE.

There are no more important facts to be remembered in our consideration of any disease than the fundamental law of self-preservation. Many so-called pathological processes become physiological when viewed from this standpoint. The most constant cardiac changes he has met with are dilatation of the heart's cavities, and degeneration of its walls. In those forms of renal disease in which the principal changes are in the Malpighian corpuscles and stroma, he had found no cardiac hypertrophy but the changes characteristic of Bright's heart. In all forms of chronic Bright's disease increased arterial tension and more or less compensatory hypertrophy are rare phenomena. Clinical experience teaches that rheumatic valvular disease of the heart may remain latent for many years, during which the heart will perform its functions effectively. Cardiac changes in chronic Bright's disease have a wide range of variation, and one cannot predict with certainty the exact changes in any given case, but sooner or later a condition of heart failure will be reached which may be designated as Bright's heart. The more marked the symptoms, the more unfavorable the prognosis. We must regard Bright's disease as a constitutional disease in which the repair and waste are imperfectly carried on.

Dr. Francis Delafield said that he wished to draw attention to several of the propositions presented. In the first place, that cardiac hypertrophy is often developed without any changes in the kidneys except thickening of the middle and inner coats of the renal artery. There can be little doubt that disease of the kidney may begin in the arteries of the kidney, but, as a matter of fact, we seldom find such kidneys at the autopsy. We have to look at this question of cardiac hypertrophy, with reference not only to the kidneys but to other parts of the body. In adults and in old persons, we may have a growth of connective tissue in the endocardium, in the arteries, in the lungs, and in the kidneys, and this growth of new connective tissue gives us either the character of a chronic inflammation or, as some people call it, a chronic fibroid degeneration of this part of the body. These changes are much more frequently associated together than otherwise. We do not often find a chronic endocarditis alone, a pulmonary emphysema, or chronic diffuse nephritis, yet they can exist by themselves.

Another thing about these lesions is, that they are often borne for years without giving the patient any trouble at all. On the other hand, we know that these lesions in other people are the most fatal ones that can be developed. What is the cause of this difference? Certainly one reason is, a certain number of these patients develop in the course of their disease a complicated condition of high arterial tension, which comes and goes in such a way that we are unable to explain it, except by the existence of temporary changes in the walls of the bloodvessels. We know it is one of the chief reasons some of these patients do well and some do badly. It is in this temporary condition of the bloodvessels we have to look for the hypertrophy of the heart, rather than in changes in the structural walls of the arteries. Dr. Loomis also states that morbid changes in the glandular structure of the kidneys are usually associated with morbid changes in the cardiac walls, and dilatation of the cardiac cavity. This point of dilatation and degeneration of the heart in connection with Bright's disease seemed to be the principal points of Dr. Loomis's paper. His experience differs from Dr. Loomis's in this respect. For himself, he should say that degeneration and dilatation of the heart without endocarditis, is certainly not the rule in chronic Bright's disease. It is not nearly as common as simple hypertrophy of the left ventricle. In many of these patients, when they do badly, we have the evidence of feeble heart during life, but he did not think, if we examine these hearts after death, we frequently find dilatation or degeneration.

Dr. George L. Peabody wished to allude to one part of the paper in which some observations made by him bear out the statements of Dr. Loomis. Some years ago he reviewed the records of 2000 consecutive autopsies, and though he had not with him the actual figures produced at the time, in a paper subsequently read by him before the Academy of Medicine in New York, he showed the percentage of cases in which the heart was not hypertrophied in well-marked cases of chronic diffuse nephritis. In these 2000 cases the number in which this form of chronic Bright's disease was present was very large, for the reason that in the hospitals of New York they have a

large proportion of cases of chronic Bright's. In those cases in which he had recorded notes and made microscopic examination of the kidney, there was a large percentage of them in which there was no hypertrophy. The observations he has made since have borne out the conclusions reached then. He has long since come to the conclusion that, as a means of assisting in the clinical diagnosis of chronic Bright's disease in this country, we have to abandon the clinical evidence of the size of the heart for the reason that the size of the heart does not vary. These were all hospital cases.

DR. WILLIAM OSLER thought we might divide the cases of chronic interstitial nephritis into two great groups as we see them clinically and in the post-mortem room. One, in which we have hypertrophy of the left ventricle. These are the cases which die suddenly with uræmia or inflammation of serous membranes. They, in his experience, have invariably hypertrophy of the left ventricle. There is another group in which there are marked signs of cardiac failure, often associated with dropsy. These have a dilated heart and dilatation of the muscular substance. He regarded that dilatation as a secondary one due to failure in the nutrition of the muscular substance, and in a considerable proportion of cases degeneration is associated with arterio-sclerosis in the coronary arteries.

DR. LOOMIS, in closing, said that Dr. Delafield must have made his observations in a different way or for a different purpose than he. He was certain that degeneration of the cardiac walls was present in a larger proportion of the cases than one would be led to suppose, unless he had made careful microscopic section.

He did not enter into these investigations with any preconceived views on the subject. He simply took the facts as they came to him. He did not believe the cardiac dilatation was a primary one, but he wished simply to convey the idea that in Bright's disease of the kidneys, whatever the form may be, before the fatal issue is reached, there exists, in a great majority of cases, a degeneration of the cardiac walls. The first unfavorable symptom to him, of a patient with Bright's disease, is the evidence of a failing heart. He did not regard the cardiac hypertrophy as part and parcel of the kidney lesion. It is at the period of middle life we see these degenerative changes, and if Bright's disease develops at this period we are likely to have a hypertrophied heart before the existence of the Bright's disease. He did not say these degenerative changes are the cause of dilatation, but a careful measurement of the cardiac cavities in these hearts that are feeble, where there is some form of degeneration of the muscular fibre, would lead him to believe that degeneration may have occurred only a short time before. In a feeble heart with disturbance in the function of the kidney we must recognize the fact that life cannot be prolonged for a very great length of time.

DR. S. C. CHEW, of Baltimore, read a paper on

THE RELATION BETWEEN CHRONIC INTERSTITIAL NEPHRITIS AND ANGINA PECTORIS.

He said that it is well known that some forms of Bright's disease are likely to be associated with organic changes in the heart, and the manner in which such cardiac changes are brought about has been the subject of many ingenious arguments. He quoted cases illustrating the relation between chronic interstitial nephritis and angina pectoris. Cardiac ischæmia, he thought, is brought about more by obstructed disease of the coronaries than by any other cause. A patient may die of angina pectoris without there being recognized at the post-mortem any vascular lesion whatever.

DR. PEABODY said that the fact which Dr. Chew brought out at the close of his paper of the occurrence of angina pectoris without there being recognized after death, any vascular lesion, is one of great importance when we consider that a patient may die in such an attack and yet leave no lesion. One clinical fact of importance, that has occurred in his experience, is the frequent failure of the vascular dilators to relieve the paroxysm. Nitrite of amyl and nitro-glycerine are of no value except when there is increased arterial tension. These paroxysms are as likely to come on when there is defective arterial tension as when there is an increase.

DR. CHEW, in concluding, said that he wished to refer in his paper only to cases of angina pectoris connected with chronic interstitial nephritis.

AFTERNOON SESSION.

DR. J. M. DA COSTA, of Philadelphia, opened the session with a paper on

THE TREATMENT OF VALVULAR AFFECTIONS OF THE HEART,

which will appear in full in *The American Journal of the Medical Sciences* for November.

DR. F. C. SHATTUCK said that in listening to the paper it occurred to him how very desirable it would be to have a heart tonic which would increase the efficiency of the contractions and at the same time not increase the resistance in the peripheral circulation. He should like to ask Dr. Da Costa as to the possibility of strophanthus supplying that desideratum.

DR. CHEW said that his experience with strophanthus was very various. He at one time thought we had in that drug something that would do good to the heart without in any way lessening its powers. Now he is not so sure of it.

DR. DA COSTA said that judging of strophanthus clinically it does not seem to have the power claimed for it, viz., of acting on the heart as well as the arteries.

DR. BAUMGARTEN, of St. Louis, then read a paper on the

DISTURBANCES OF THE HEART RHYTHM WITH REFERENCE TO THEIR CAUSATION AND THEIR VALUE IN DIAGNOSIS.

He said that intermission and irregularity of the pulse never fail to attract the attention of the physician, and have been the subject of much discussion. Anomalies of rhythm may be classed under four heads:

1. Mere fluctuations in the frequency of the heart's beat.
2. Variations in frequency, as well as amplitude of pulse.
3. All the numerous changes in rhythm.
4. Types of rhythms.

The rhythm of the incompetent heart can be increased by increasing the demands of the heart. A moderate degree of rhythm in the erect posture often ceases when the patient lies down. We may expect moderate degrees of irregularity in anæmic and cachectic patients. Dila-

tation from overwork is sure to produce a small, soft, accelerated pulse, and later on an intermittent or wholly irregular pulse. Irregularities of pulse arise sooner in mitral than in aortic disease. Acute myocarditis is characterized by a rhythmic pulse, small and very frequent, and the irregularity is an essential feature in the diagnosis. Sclerosis and narrowing of the coronary arteries are the cause of rhythm. Weakness of the heart from any cause makes the pulse frequent. In aged people the heart's rhythm is more easily disturbed than in young people.

DR. E. T. BRUEN, of Philadelphia, said that a short time ago he came across an article in the *Transactions of the Pathological Society of London*, in which there were recorded thirty-seven cases of fibroid heart, in which the pulse was markedly slow. He thought it an important matter to recognize, because it will aid us in the exclusion of fatty degeneration of the heart.

DR. EDES said very few of these irregularities he had noticed particularly. He was glad to call attention to one thing he noticed, and that was the occasional intermission in certain cases of pericarditis in which a beat falls out or becomes much weaker.

DR. OSLER said there were one or two points to which he would refer: certain individuals suffer with extreme irregularity of heart for several years, without its producing the slightest inconvenience. In a foot-note to his article in Pepper's *System of Medicine*, he mentions the case of a man who had extreme irregularity of the heart since his fortieth year. Another point to which he would call attention is, in certain cases of mitral valve-disease extreme irregularity may exist with complete compensation, and an irregularity obstinate to every kind of treatment.

DR. H. M. LYMAN, of Chicago, said that in cases in which there is no valvular lesion, no dilatation of the heart; in which, in fact, the phenomena were merely functional, he had noticed disturbance of the heart-rhythm. Many of them seemed to be entirely due to a disturbance of the excretory organs of the body. He found them manifest themselves in persons of a nervous temperament, overworked, and harassed by business, and presenting no lesions of the kidney or heart, or organic changes of the liver associated with some degree of gastro-intestinal catarrh. Such cases as that he found not appreciably benefited by digitalis, or other heart tonics, but are greatly relieved by measures which tend to stimulate the action of the liver and kidneys. They frequently manifest symptoms of muscular rheumatism. Cases of this kind are very much relieved by laxatives associated with hepatic stimulants, blue pill with a little colocynth. These often give more relief than any specific cardiac drug.

DR. A. E. SANSOM, of London, said that great irregularity of the heart's action is very often consistent with perfect health. He has had several striking illustrations of this. He thought it the bounden duty of the physician, unless this irregularity is associated with cardiac changes, or unless we feel there is dilatation or degeneration, to try and disabuse the patient, and direct his thoughts away from the heart.

DR. W. H. DRAPER said that some years ago his attention was called, by an article by Dr. Richardson, of London, to a class of cases which had been alluded to in this discussion, in which irregularity of the heart persisted for many years. Dr. Richardson traced many of these cases to extreme nervous shocks, loss of property, grief from the loss of a relative, etc. He has been able to confirm Dr. Richardson's observation in a number of instances. He would like to ask Dr. Baumgarten if that agreed with his observation.

DR. BAUMGARTEN, in closing, said that perfect consistency of good health with irregular pulse has been mentioned. The intention of his paper was to try to arrive at a systematic view of all rhythms. Of course, it was not his object to include the exception rather than the rule. The person who observed rhythms with perfect health has, of course, observed a great many more rhythms with imperfect health.

(To be concluded)

AMERICAN NEUROLOGICAL SOCIETY.

Fourteenth Annual Meeting,
Held at Washington, September 18, 19, and 20, 1888.

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, SEPTEMBER 18TH.

THE PRESIDENT, DR. JAMES J. PUTNAM, of Boston, in his opening address called attention to the value of what practically amounted to collective investigation and referred, in particular, to his own research as to the influence of small quantities of lead upon the organism. He stated that he is now engaged upon a research with the object of discovering whether or not, small quantities of this may exist in the body without producing appreciable effects.

DR. PHILIP C. KNAPP, of Boston, then read a paper on

NERVOUS AFFECTIONS FOLLOWING INJURY (CONCUSSION OF THE SPINE, RAILWAY SPINE, AND RAILWAY BRAIN).

The principal points to which he called attention were as to whether there are real lesions produced in the majority of these cases, or whether the symptoms do not partake to some extent of an hysterical or psychical character. He quoted largely from both English and German writers in regard to this point, some of whom stated that chronic tabes may result from prolonged concussion, such as that to which railway engineers are subjected. Attention was called to the fact that Page and the reader regard railway spine as commonly being due to lumbago or muscular asthenia and stiffening. Dr. Knapp also reported several cases and the whole tenor of his paper rather supported the functional than the organic idea of the disease.

DR. SEGUIN, of New York, in the discussion which followed, spoke about the conditions which might come on in hypnotism as resembling somewhat those symptoms which persons suffering from railway spine might present. That is to say, the auto-suggested symptoms of some hysterical persons might bear a very close resemblance to the statements made by persons under the influence of a sudden nervous shock, such as that produced by railway accident. The speaker also made the statement that he has never seen a patient of this character present symptoms which could not be simulated.

DRS. LLOYD and DEAVER, of Philadelphia, reported

A CASE OF FOCAL EPILEPSY, SUCCESSFULLY TREATED BY TREPHINING AND EXCISION OF THE MOTOR CENTRE.

DR. DAVID FERRIER, of London, at the invitation of

the Association, spoke concerning the interest and value of such cases, and called attention to the fact that as the case had only been operated upon three months ago, it was entirely improper to report it as one completely cured. He cited an instance of a patient under his care who had been operated upon by Mr. Horsley, but in whom the operation eventually proved valueless, although for some months afterward, the fits were almost completely put aside. On the other hand, he cited a second case occurring in his own practice, the result of which was strikingly opposite from that just quoted, and which also was operated upon by Mr. Horsley. The patient just prior to the operation passed almost into the *status epilepticus*, having as many as 3000 fits in fourteen days, but recovered completely after the operation.

MR. HORSLEY agreed with Dr. Ferrier in every thing which he had said, and spoke of the great value which such operations possessed. In regard to the question as to whether patients had loss of true tactile sensibility, or whether the apparent loss depended upon loss of muscular power, Mr. Horsley pointed out that if pressure was made of a finger against the nail and cushion of the digit, the patient by the mere sensation in his arm is able to tell what you are doing; but, if the thumb, for example, be grasped by the operator with his thumb and forefinger at the sides of the phalanx, and then passive movements are made, the patient is unable, if sensation is locally impaired, to describe the movements employed. He also pointed out that a very good method of forcing a patient to indicate the point touched was to tell him, when blindfolded, to place the index finger of his opposite hand upon the spot. He also mentioned an instance in which the patient using this method always indicated with his index finger the segment nearer the body than the one actually touched by the physician.

DR. GRAY, of New York, thought that no case should be reported as cured until at least five years after the operation, and cited cases in support of this belief.

DR. PUTNAM, of Boston, then reported

A CASE OF INFECTIOUS NEURITIS,

which was illustrated by a large number of colored drawings and microscopical specimens. The age of the patient was twenty-eight years, and the changes particularly noticed were around the nodes of Ranvier. Death occurred from asphyxia.

DR. PYE SMITH, of London, at the request of the Society, spoke of the value of Dr. Putnam's research, which he thought was particularly instructive in view of the fact that so few post-mortem examinations are obtained in such cases. Aside from the question of drink, he was interested as to the influence exerted in the production of the disease by the gouty diathesis.

WEDNESDAY, SEPTEMBER 19TH.

DR. L. C. GRAY, of New York, presented a paper on

THE DIFFERENTIAL DIAGNOSIS BETWEEN GENERAL PARESIS, CERTAIN FORMS OF INTRACRANIAL SYPHILIS, AND THE CEREBRAL TYPE OF DISSEMINATED SCLEROSIS.

He was of the opinion that the tremors of disseminated sclerosis are entirely cortical in origin. He mentioned the interesting fact, to which attention has already been drawn elsewhere, that the tremor of paralysis agitans and that resulting from electrical stimulation of the cortex in the monkey were identical in that the tremors were at the rate of eight per second.

DR. WEBBER, of Boston, spoke of the fact that it was perfectly possible to have disseminated sclerosis with no tremor, and thought the paper very instructive.

DR. PETERSON then read a paper in which he described the results of research carried out by him respecting the

CHARACTER OF VARIOUS TREMORS.

He called attention to the fact that both diseases and drugs may produce such abnormal movement, and reminded the Association of the fact, long since discovered, that tetanus is but a frequent discharge of impulses from nervous centres. The tracings which Dr. Peterson showed were very interesting and had evidently been taken with considerable accuracy by means of a modified sphygmograph.

DR. SINKLER, of Philadelphia, asked whether Dr. Peterson had ever been able to obtain a simultaneous tracing of both knee and ankle clonus. He replied that he had not.

DRS. LLOYD and DEAVER, of Philadelphia, reported a

CASE OF TUMOR OF THE CERVICAL SPINE.

The patient presented all the symptoms of cervical pareplegia before the operation, and died three days afterward.

DR. SHAKESPEARE, who made the microscopical sections of the spinal cord, made some remarks concerning it, in which he expressed the belief that the morbid process seen under the microscope in the anterior portion of the cord was hemorrhagic in type.

DR. SINKLER, of Philadelphia, presented a paper on

HEREDITARY CHOREA,

in which he reviewed the literature of the subject very thoroughly, and pointed out that the southeastern portion of Long Island seemed to be the point of residence for the disease. The disease is peculiar, other than owing to its hereditary character, in the fact that it seldom appears except in persons well advanced in adult life, never is cured, often is complicated by insanity, and progressively gets worse.

CORRESPONDENCE.

THE WHITECHAPEL MURDERS.

IT has been a source of no little surprise to the writer that, considering the universal attention and numerous conjectures raised by this dreadful series of crimes, no clear idea of the character or purpose of the perpetrator seems to have been obtained. While one writer conjectures that the murderer may be a woman, another sees here but a general lesson, and exemplification of the well-recognized law that filth will breed filth, and this is but the natural consequence of the pestilential moral atmosphere in which the inhabitants of a part of London are reared, and in their turn raise their children. To the writer the probabilities in the case seem to point overwhelmingly to the mainspring of *sexual perversity*, which, in an aggravated form, seeks to gratify its morbid desires by victimizing women of the same class, who have at one time been the source of gratification of the normal instinct. Instances of this kind are not rare in literature, and the instinct to victimize the object of the

passion is shown in a scale of progressive crime, from the simpler forms in which the sexual pervert finds it necessary to bite, or scratch, or stick pins into the woman to excite his desire, or to cut or injure in such a way as to draw blood, all the way up to those frightful cases of fiendish barbarity, in which the life of the victim is demanded as a sacrifice to secure the full enjoyment of the sexual act. The writer has thus been, from the very first reading of the peculiar nature of the Whitechapel crimes, fully in accord with the views of Dr. Mills, expressed in the Philadelphia *Press* of October 3d.

The great liability to error on the part of the officers of the law, in the investigation of such cases as the present, lies in the fact that they are misled in their effort to appreciate the *motive*, and invariably attribute it to an *ordinary criminal instinct*. Such, however, is not the case, and it is as impossible for a sound healthy man to conceive the nature of the impulse which impels the pæderest, or other sexual pervert, as it would be to conceive a new color.

The following examples serve to illustrate the peculiarity the instinct exhibits in these cases of adopting and adhering to one particular mode of expression as well as several grades in the criminality.

Tarnowski quotes from Eulenberg (*Vierteljahresschr. f. gerichtl. Med.*, 1878, Bd. 28, S. 61) a curious case, which is but a type of a large number exactly similar in character. Cases in which the sexual instinct is roused by white objects, more particularly the white underclothes of women. The victim of the passion steals these, and retires to his room with the white garment for the purpose of pollution. Sometimes he will wear the wash for awhile.

Brierre de Boismont (*Gazette Méd.*, July 21, 1849, Tarnowski) cites a case, a type of another class, in which the victim of the appetite seeks to gratify his passion by violating the corpses of young females recently died, which he accomplished in more than one instance, by heavy bribes to the watchers. Another case of violation of the dead was one in which a soldier escaped periodically from his garrison, and dug up recently buried corpses, and with great frenzy tore them open and pulled out the entrails and there polluted himself.

The case of the Marshal of France, Gilles de Rayes (S. Jacob, *Curiosités de l'lustoire de France. Causes célèbres*. Paris, 1859), is well known, and has a more direct bearing on the horrible instance under consideration. He was condemned to be burnt to death, in the time of Charles the Seventh, for the violation and murder of more than eight hundred children in the course of eight years. He had lived in retirement in his castles in Bretagne, where he had practised the most frightful cruelties upon children of both sexes. He had first been brought to a desire to commit his crimes by reading Suetonius's description of the orgies of the Emperor Tiberius, Caracalla, and others. He was in the habit of burning the bodies of the children, keeping the prettier heads as mementos. "I enjoyed," says the Marshal in his defence, "in this practice the most indescribable pleasure." He confessed to the King that he had left court on account of this irrepressible desire to violate children, and his fear that he would be guilty of carrying out his practices upon the heir apparent.

The conjecture of the writer seems to be supported in the instance before us by a variety of circumstances. A desire to murder without any *apparent* motive, a desire which practises its cruelties invariably upon women, and that of a certain class; added to this the mutilation of the genitals of the corpse, and, in at least one instance, the peculiar practice of slitting open the belly and drawing out the entrails. In addition to this it is of importance to note the periodic outbreak of the crime, in some measure corresponding to the time necessary to recuperation from violent sexual exhaustion.

It would be of importance to search the corpses, when freshly found, for evidences of violation of this kind, although such is not necessary to establish the truth of the supposition. Sexual perverts of this character never *begin* by the commission of crimes of such frightful atrocity, but yielding to impulses to do slight injury to their victims, find, as time goes on, that it is necessary to practise greater and greater cruelties, to arouse their desires and gratify passion, until a stage like the present is reached. Such has with probability been the history of the present murderer.

Aside from the truth or falsity of these views, the lesson is a valuable one. Such cases have repeatedly occurred, and the tendencies which produce them are, not only in Europe, but even in our own midst, rife to-day. While much that has been previously written on this subject has served more to gratify the fancy of the curious, Tarnowski has shown that there is a definite law pervading the whole, producing the more or less frequent appearance of these monsters, as definite as the law of gravity. The victims of the disease are not confined by any means to the debauched lower classes, but circulate in every social circle. They are mostly children of psycopathic parents, of drunkards, and men who have sowed their wild oats in their youth, who vainly imagine that with their resolution to reform and marriage, all evil consequences are left behind them. Such men either generate women who have no sexual instinct at all, or boys who become masturbators or seek by pæderasty or some other abnormal way to gratify their unchaste feelings. They are wretched, nervous, excitable children of a depraved parent. Excess of wealth and excessive poverty breed such diseases. Men who have no need to work, seek pleasure in excesses in which one vies with another to outstrip him in crime. Men who cannot find work they seek, are driven likewise to excesses to drown despair. What more can the guardians of public health and morals do at present than vigorously stamp upon every appearance of such crimes however slight in their beginning, and elicit a full, free, and healthy discussion of this whole subject by medical men?

HOWARD A. KELLY,
Assoc. Prof. Obst. Univ. of Penna.

NEWS ITEMS.

The Late Dr. E. Williams.—At a meeting of the medical profession, held October 6, at the Miami Medical College, in response to a special call, to take action on the death of Dr. E. Williams, Dr. John A. Murphy was chosen chairman, and Dr. Robert Sattler, secretary. The following resolutions were adopted:

"The death of Dr. E. Williams, the veteran and distinguished oculist of Cincinnati, deprives the ranks of the medical profession of one of its most noted and use-

ful men, and the community loses also a noble and unselfish friend of humanity.

"As a man he endeared himself by his cheery and genial disposition and his unselfish characteristics to his professional colleagues, both old and young, and no one more generously received the appreciation and gratitude of his patients.

"As a physician he was equally esteemed by the profession and the community for his untiring and energetic efforts to promote the advance of medical knowledge, and in particular in the department of ophthalmology. Faithfully and zealously were his best endeavors and most assiduous energy devoted to this important division of the medical sciences. For a period exceeding thirty years he was active as a specialist and devoted all his attention and time to ophthalmology and otology. Justly does he deserve the credit and distinction of having been foremost among a limited number of men in aiding the introduction and establishment of ophthalmology as a recognized department of medicine and surgery in America.

"Throughout this long period he has been constantly identified with medical education. His superior qualifications as a lecturer and teacher gave him unlimited scope of usefulness as a successful instructor, and gratefully will he be remembered by a countless number of students.

"His unlimited capacity for practical work afforded him additional opportunities to aid in the alleviation of suffering, and with unremitting attention he assumed and discharged faithfully the arduous duties of a college, hospital, and dispensary position.

"He was lavish, it may be even said reckless, in his offerings to charity and poverty-stricken patients; but if he erred in giving his services freely and gratuitously, it was only to carry out his desire to do good for the sake of good, reward or no reward.

"The medical profession of Cincinnati herewith acknowledge their appreciation of Dr. E. Williams as a distinguished physician, and unite in their expression of sorrow and sympathy over the announcement of his death."

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 2 TO OCTOBER 8, 1888.

WILLIAMS, JOHN W., *Major and Surgeon.*—On duty with the Battalion of the Second Artillery, now at Fort Wadsworth, New York Harbor, is granted leave of absence for one month, with permission to apply to the proper authority for an extension of one month.—Par. 1, *S. O. 209, Headquarters Division of the Atlantic, Governor's Island, New York City*, October 4, 1888.

CRONKHITE, HENRY M., *Major and Surgeon.*—On being relieved by Captain Corbusier, will report for duty to the commanding officer, Little Rock Barracks, Arkansas, reporting by letter to the commanding general Division of the Atlantic.—Par. 10, *S. O. 227, A. G. O., Washington*, September 29, 1888.

ADAIR, GEORGE W., *Captain and Assistant Surgeon.*—Is relieved from duty at Fort Brady, Michigan, and will report for duty to the commanding officer, Fort Robinson, Nebraska, reporting by letter to the commanding general Department of the Platte.—Par. 10, *S. O. 227, A. G. O., Washington*, September 29, 1888.

By direction of the Acting Secretary of War, the following named officers of the Medical Department will report, in person, on the dates set opposite their respective names, to the President of the Army Medical Examining Board, Army Building, New York City, for examination for promotion: *Captain and Assistant Surgeon* JAMES C. MERRILL, October 16, 1888; *Captain and Assistant Surgeon* GEORGE MCCREERY, October 16, 1888; *Captain and Assistant Surgeon* RICHARD W. JOHNSON, October 9, 1888. Upon the completion of their examination, the officers named will rejoin their stations.—Par. 5, *S. O. 231, A. G. O*, October 4, 1888.

CORBUSIER, WILLIAM H., *Captain and Assistant Surgeon.*—On being relieved by Captain Taylor, will report in person to the commanding officer, Fort Hays, Kansas, for duty at that post, relieving Major and Surgeon Henry M. Cronkhite, and reporting by letter to the commanding general Department of Arizona.—Par. 10, *S. O. 227, A. G. O., Washington*, September 29, 1888.

By direction of the Acting Secretary of War, leave of absence for six months is granted WILLIAM B. DAVIS, *Captain and Assistant Surgeon* (U. S. Army).—Par. 12, *S. O. 232, A. G. O.*, October 5, 1888.

By direction of the Acting Secretary of War, the leave of absence granted JOHN M. BANISTER, *Captain and Assistant Surgeon*, in S. O. 210, September 10, 1888, from this office, is extended one month.—Par. 2, *S. O. 232, A. G. O.*, October 5, 1888.

TAYLOR, ARTHUR W., *Captain and Assistant Surgeon*.—Is relieved from duty at Fort Robinson, Nebraska, and will report in person, without delay, to the commanding officer Fort Grant, Arizona Territory, for duty at that post, relieving Captain and Assistant Surgeon William H. Corbusier, and reporting by letter to the commanding general Department of Arizona.—Par. 10, *S. O. 227, A. G. O., Washington*, September 29, 1888.

RAFFERTY, OGDEN, *Lieutenant and Assistant Surgeon* (U. S. Army).—Will stand relieved from duty in connection with the Division rifle competition, the 7th instant. and, under Par. 6, S. O. 2, c. s., Headquarters Division of the Missouri. will return to his proper station, Fort Clark, Texas.—Par. 5, *S. O. 95, Headquarters Department of Texas.*

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF THE MEDICAL CORPS OF THE U. S. NAVY, FOR THE WEEK ENDING OCTOBER 6, 1888.

HUDSON, ADRIAN, *Medical Inspector.*—Ordered to the Naval Hospital, Mare Island, California.

GIHON, A. L., *Medical Director.*—Detached from the Naval Hospital, Mare Island, California, and proceed home.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, FOR THE FOUR WEEKS ENDING OCTOBER 6, 1888.

PURVIANCE, GEORGE, *Surgeon.*—To proceed to Washington, D. C., for special duty, October 3, 1888.

STONER, G. W., *Surgeon*.—Detailed as Chairman of Board to select a site for the Marine Hospital at Evansville, Indiana, October 5, 1888.

GOLDSBOROUGH, C. B., *Surgeon.*—Leave of absence extended fifteen days, on account of sickness, September 28, 1888.

SEATON, NORMAN, *Assistant Surgeon.*—Detailed as Recorder of Board to select a site for the Marine Hospital at Evansville, Indiana, October 5, 1888.

FATTIC, J. B., *Assistant Surgeon.*—To rejoin his station at St. Louis, Missouri, October 5, 1888.

MAGRUDER, G. M., *Assistant Surgeon.*—To proceed to Way Cross, Georgia, for special duty, September 15, 1888.

GEDDINGS, H. D., *Assistant Surgeon*.—To proceed to Camp Perry, Florida, for special duty, September 15, 1888.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

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